

EXPERT REBUTTAL REPORT OF ALI SAAD, Ph.D.

In the matter of
*Office of Federal Contract Compliance Programs,
United States Department of Labor, Plaintiff,*

v.

Oracle America, Inc., Defendant.

OALJ Case No. 2017-OFC-00006

August 2019

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ASSIGNMENT

1. I was retained by counsel for defendant Oracle America, Inc. (“Oracle”) in my capacity as a labor economist to respond to the expert report by Dr. Janice Madden dated July 19, 2019 in the matter of *Office of Federal Contract Compliance Programs, United States Department of Labor, Plaintiff, v. Oracle America, Inc., Defendant*. Dr. Madden’s report was submitted in support of OFCCP’s contention that “Oracle discriminated against women, Asians, and African-Americans or Blacks in compensation.”¹ The OFCCP further alleges that “Oracle paid women and Asians less at hire, either by suppressing their pay relative to other employees in the same or comparable job, or by hiring them for lower-paid jobs,” and that Oracle “place[s] [female, Asian, and Black or African-American] employees in lower global career levels.”² To address these allegations from a statistical perspective I was provided with electronic human resources data, payroll data, performance review system data, and other documents related to Oracle, including depositions and company policy documents. I have been provided with Dr. Madden’s backup materials and have been able to replicate and evaluate her analyses. My report responds to the analyses submitted by Dr. Madden. I may supplement this report at a later date if additional relevant information is made available to me.

¹ Second Amended Complaint, in the matter of *Office of Federal Contract Compliance Programs, United States Department of Labor, Plaintiff, v. Oracle America Inc., Defendant*, United States Department of Labor, Office of Administrative Law Judges, OALJ Case No. 2017-OFC-00006 OFCCP No. R00192699, March 8, 2019, paragraph 11.

² SAC, paragraph 22.

QUALIFICATIONS

2. I am the Managing Partner of Resolution Economics Group LLC, a firm whose activities include performing economic and statistical analyses in connection with litigation and other consulting matters. Before beginning my consulting career I was a tenure track member of the faculty of the economics and finance department at Baruch College of The City University of New York. While there I taught labor economics, micro and macroeconomics, econometrics, and economic history. In connection with my consulting, I have extensive experience providing statistical and economic analyses in connection with company pay equity studies, evaluations of compensation systems, and class action employment cases, including employment discrimination and wage and hour matters. I have also published and lectured on these topics. A consistent focus of my work has involved economic and statistical analyses related to claims of systemic gender discrimination. In the litigation context, I have significant experience in analyzing complex data for the purpose of assisting counsel in evaluating both class certification and liability, including in compensation discrimination cases. I hold a Ph.D. in Economics from The University of Chicago, and a B.A. in History and Economics from The University of Pennsylvania. I have been qualified as an expert witness in both Federal and State Courts. My resume, including all publications and testimony over the past four years, is provided as Attachment A. My firm bills for my services at my current hourly rate of \$750 per hour.

DATA AND DOCUMENTS

3. I was provided by Counsel with databases, depositions, and other documents. In addition to computerized human resource databases, the information provided also includes a variety of computerized textual documents that supply detailed company- and employee-specific information such as: 4,517 job requisitions that provide detailed information about the types of skills and experience relevant to different posted positions under the same standard job title; 4,226 resumes that list specific educational and employment experiences of employees; 1,584 narrative descriptions that managers provide to explain the reasons for their pay and promotion decisions, including starting pay; and 19,972 performance appraisals and self-appraisals that describe the work performed by different employees. In addition, I collected publicly available data, and relied on additional secondary materials. I have also received Dr. Madden's July 2019 report and the back-up materials produced with that report. In connection with my July 2019 report, I listed in Attachment B the materials I had been provided to date for consideration in connection with this case. Additional materials provided for my consideration since that date in connection with this rebuttal report are listed in Attachment B.

SUMMARY OF FINDINGS

4. The only way that Dr. Madden reaches a conclusion that Oracle pays women, Asians, and African-Americans less than it should is because she *assumes* with no empirical support that Oracle specific pay related factors like jobs held and the nature of the work employees are engaged in should be excluded from a pay analysis because of the possibility that they too are the outcome of biased decision making by Oracle managers. As a result, in her primary pay analyses, Dr. Madden only controls for differences in age, educational level and time since hire at Oracle. The exclusion of all Oracle related job and work area factors from the analysis of pay

differences by gender and race is based only on an *assumption*, not on any analysis performed by Dr. Madden, an assumption which falls apart when subjected to empirical scrutiny.

5. In addition, the variables Dr. Madden does include to measure pre-Oracle work experience and education are poor proxies that ignore the relevance of an employee's background to the work he or she performs at Oracle. Given Dr. Madden's approach, which does not by design include any pay related factors focused on the jobs and the work employees do at Oracle, she should have focused especially hard on obtaining the most complete and accurate information related to each employee's *pre-Oracle* characteristics. Instead of doing this, she simply measured age, years at Oracle, and level of education, but did not use the details of each person's prior work history or the type of education. Finally, when Dr. Madden does insert several Oracle variables into her pay analyses in order to in her words "assess the mechanisms by which discriminatory compensation occurs,"³ they are insufficient measures that fail to allow comparisons between employees performing similar work. Because of these flaws, Dr. Madden's analyses do not support any inferences of pay discrimination at Oracle.

6. Dr. Madden's *assumed* bias by Oracle's many managers in job "placement," *assumed* bias in promotions, and "identified" pay bias that results in her statistical analysis when Oracle job- and work-related variables are excluded due to these assumptions all disappears once her predicate assumptions are actually tested. There is no empirical evidence of bias in how employees come to hold the specific jobs and positions they occupy at Oracle, and the only way Dr. Madden obtains her adverse gender and race pay results is by omitting Oracle variables from her analysis. In my initial report filed July 19, 2019 and in this further report, I conduct analyses that show that none of the biased outcomes that Dr. Madden assumes are observed in the data. In addition, the one analysis Dr. Madden performs of other Oracle practices does not show any bias

³ Madden July 2019 report, p. 8

in that practice. I then use the job- and work-related factors that Dr. Madden omits to more closely compare employees with similar skills doing similar work from a labor economics perspective and find no pattern of statistically significant pay differences.

7. In my previous report I responded to positions taken by the OFCCP in their March 8, 2019 Second Amended Complaint (“SAC”) and March 11, 2016 Notice of Violation (“NOV”). In the SAC and NOV, the OFCCP purported to conduct what is typically referred to as a “pay equity” analysis. In other words, they did not assume that variables related to the work performed by employees at Oracle should be left out of their model – they included variables found in the Oracle data for standard job title, career level, and so on, as part of their attempt to compare the pay of employees performing similar work. In addition, in both the SAC and the NOV, the OFCCP conducted separate analyses by job function, presumably because they believe that there are sufficient differences between the business aspects of these three functions that the variables in their models would not adequately capture such differences and could bias their findings. In my initial report, I focused on the failure of the OFCCP to include the correct measures of many of these variables, and the omission of other variables that they should have included even within their function-wide, aggregated models.

8. Dr. Madden has not performed an analysis that is anything like that of the OFCCP. Dr. Madden has lumped all employees into one analysis, and has not taken into account any variables about work performed at Oracle in reaching her conclusions that Oracle pays women, Asians, and African-Americans less than it should. Dr. Madden’s pay analyses do not by design compare employees who are similarly situated from a labor economics perspective with respect to the work they perform because of an *assumption* that Oracle *might* have exercised gender and race bias in the “assignment,” in her words, of employees into jobs and other aspects of the work

at Oracle. Consequently, Dr. Madden does not include any variables in her analyses that identify what jobs people hold, what type of work they perform, or anything else regarding the details of their work at Oracle. Instead, she only compares employees who share the same age, education level, and years since hire at Oracle.⁴ As I noted above, Dr. Madden does include several Oracle variables in portions of her analysis, but only does so in order to identify what she claims are particular sources of the overall pay differences. For example, when Dr. Madden attempts to control for the jobs people are in, she observes the reduction in the size of the pay gap, and states that this reduction is the amount by which Oracle's biased "assignment" of jobs contributes to the overall pay gap identified when only education, age and Oracle years of tenure are taken into account. The problem is, Dr. Madden does no analysis of how jobs are "assigned," and simply states that if Oracle is alleged to have pay disparities, it must be the case they also have job assignment disparities, and since that would flow through pay, the analyst must omit the job factors or variables from the pay analysis. Of course, this is circular reasoning, and since it is subject to empirical testing with the data provided, Dr. Madden could have tested for the job assignment issue and then decided if it was appropriate to include job in her pay analysis. She did not do this. Her untested predicate assumption is that there can be no possible reason why groups of employees differ in what jobs they hold or what work they perform other than discrimination by Oracle managers against members of particular groups.

9. Based on her statistical models, Dr. Madden computed an aggregate pay shortfall of over \$700 million that she claims Oracle owes its employees. However, Dr. Madden's damages figures are based directly on the flawed statistical pay difference models she runs. Because these

⁴ Note that this statement is with respect to what I discuss below regarding Dr. Madden's "column (5)" analysis which controls only for age, educational level and Oracle tenure, and from which she draws her conclusions regarding the full extent of Oracle's shortfalls in pay to its female and minority employees.

analyses are neither sound nor reliable, they do not establish any pattern or practice of pay discrimination at Oracle, and they do not provide any basis for computation of damages. My analysis indicates no pay shortfalls by protected groups, and thus provide no basis for OFCCP's formulaic computation of damages.

CRITIQUE OF DR. MADDEN'S ANALYSIS

10. I begin this report with an in-depth critique of Dr. Madden's general approach to studying pay outcomes at Oracle and her econometric implementation of the pay and promotion models. In a subsequent section of this report, I then present my results that compare employees who are more similarly situated in terms of their skills, responsibilities and the work they perform. I perform these analyses on the assumption that the levels of aggregation are appropriate, an assumption I differed with in my initial report. I also use the Oracle variables as provided, again, in spite of previously expressed reservations I have about, for example, the usefulness of standard job title.

There is no basis for excluding variables regarding the work employees at Oracle perform from a study of pay discrimination

11. Dr. Madden reaches her statistical conclusions of large pay differences primarily because she asserts that no variables related to the work employees at Oracle actually perform – *e.g.*, standard job title, organization, career level, or even whether an employee is a manager or individual contributor – can be included in pay analyses designed to evaluate alleged pay discrimination, due simply to the *possibility* that these variables could be tainted by discrimination. Consequently Dr. Madden's conclusions related to pay do not account for differences in what jobs employees hold, what projects they work on, or any other aspects of

their work at Oracle (other than just time since hire).⁵ Dr. Madden suggests that her approach is standard in labor economics, when in fact it represents an extreme and untenable way of studying pay outcomes in a specific company about which you have large amounts of data regarding the nature of the work employees are engaged in.⁶

12. Dr. Madden's approach to evaluating pay discrimination at Oracle is inconsistent with the approach she has used elsewhere, including in evaluating pay at her own long-time employer. She and other members of the University of Pennsylvania Gender Equity Committee conducted a study on the University's data that, unlike her report here, used an approach that utilized detailed company variables to take into account details of the work being performed. There, they estimated *separate* models by rank (e.g., Assistant, Associate, Full Professor) and by department/school (e.g., Arts and Sciences, Humanities, Social Sciences, Wharton, Law School, etc.). The models further controlled for degree and time since degree was earned, *as well as in some cases whether the specific department was "high-pay, low-pay, or medium-pay."* The stated reason for introducing these controls was to account for the fact that "[t]here are several reasons why salary levels differ among faculty members. If one faculty member has a more

⁵ As noted above and further described below, in Dr. Madden's tables 1(a) through 3(c), she inserts Oracle specific variables for exempt status, "job descriptor" (a variable she created by grouping together a number of standard job titles that she considers to be related), whether an employee is a manager or not, and global career level. However, Dr. Madden does *not* insert these variables in order to more similarly situate employees for pay comparisons, but simply to allow her to identify the extent of what she views as "discrimination" from Oracle's assumed biased "assignment" of exempt status, biased "assignment" of jobs, etc. Her opinion regarding the true pay differentials for each protected group is not based on analyses after any of these work and job-specific variables are included, as she emphasizes in her report.

⁶ Note that in certain of her analyses, Dr. Madden inexplicably changed the Oracle variables she added after her base "human capital" variables. For example, in the stock award tables (e.g., Table 1(g)), she added "performance rating" and removed "management control." Regardless of the type of analysis, Dr. Madden always used age, educational level, race/sex, and time at Oracle as the base common variables, and she used these variables as the only variables that should be inserted because of her assumption regarding Oracle's possible behavior with respect to any variables related to the actual work setting of employees once employed at Oracle.

highly compensated degree, or more experience, or has a specialty that other universities or the broader labor market compensates more highly, he or she is more likely to receive a higher salary.”⁷ There is no reason to believe this is any different at Oracle than it is at the University of Pennsylvania. And it is an empirical matter as to whether such factors correlate to gender or race, not a matter for assumption that they do not or should not.

13. Nonetheless, Dr. Madden’s opinion in this case appears to be that *if* Oracle was “steering” protected groups into lower paying positions, or denying them promotions to higher level jobs, rather than hiring applicants into jobs for which they apply and that their specific skills sets warranted, then it would be wrong to control for any job characteristics in a pay model designed to study overall pay outcomes for the protected groups. However, Dr. Madden only *asserts* that this “steering” takes place, rather than showing that it does. With respect to “steering” at the time of hire, I described in my previous report (Saad, July 2019 Report, paragraphs 147-156) and I elaborate on in this report how data produced in this case identifying the specific posted job requisitions to which applicants responded and into which individuals were hired contradicts her assumption that Oracle “steers” employees into different jobs. The job requisition and hiring data show that women, Asians, and African-Americans get the positions, career levels and work areas to which they apply at fully expected rates, and that when they are hired into a global career level either above or below the one originally associated with the posted position, it is at rates that are statistically consistent with expectations and do not systematically differ by race or gender.

14. With respect to Dr. Madden’s promotion analysis, which does not appear in the body of

⁷ The Gender Equity Report, Executive Summary, p. V, and p. V, footnote 1. ALMANAC SUPPLEMENT December 4, 2001 (<https://almanac.upenn.edu/archive/v48pdf/011204/GenderEquity.pdf>).

her report, but in an appendix, she reported results limited to two career levels for one of the three protected groups, and claims to show that women were under-promoted out of those levels. However, when I examine her analysis by year (to take changing economic conditions into account), her promotion model shows that women are promoted at expected rates in all six years she analyzed for women moving from IC3, and in five of the six years she analyzed for women moving from IC4. Furthermore, her own model showed *no* statistical under-promotion of women in any other level – a fact she omitted from her report. In addition, her computer program can be adapted to study promotions for Asians and African-Americans, though she does not appear to have done so. Her model shows there are no statistically significant adverse promotion outcomes for Asians or African-Americans in any year, in any level. These results are inconsistent with her claim that there is any gender or race “disparity in the assignment of global career levels.”⁸

15. Taken as a whole, these results clearly contradict Dr. Madden’s assumption that all variables related to work performed at Oracle should be excluded from the pay analysis. In fact, the “possibility” she posits that these variables are tainted is contradicted by the fact that, according to the data, they are not. And when these job and work variables are added to the analysis of pay, there is no pay shortfall experienced by women, Asians, or African-Americans at Oracle. Thus, there is consistency across outcomes with respect to hires, promotions, and pay, in that when all are analyzed more appropriately, there is no pattern of adverse outcomes for women, Asians, or African-Americans.

16. It is only because Dr. Madden *omits* indicators of work performed from analysis because of an *assumption* that promotions and hires/placement are biased that she gets “consistent” results. She assumes “taint” and thus bias in Oracle “assignments”, assumes taint and thus bias

⁸ Madden July 2019 report, p. 51.

in promotions, which she uses to justify not controlling for these Oracle factors in the pay analysis, which then leads her to a “finding” of a pay disparity. The problem is that her story’s apparent consistency breaks down, because her assumptions of bias in two practices (how job held/work area is determined, and promotions) that justifies leaving out important variables when studying a third practice (pay) are easily rebutted by examining the actual data. Dr. Madden’s opinion collapses when her assumptions are tested empirically, with the result being a consistent set of conclusions: Oracle does not exhibit bias in 1) hires into jobs to which individuals applied; 2) promotion across career levels; or 3) “pay equity,” when (more accurate) work- and job-specific variables are included in the pay analysis.

Dr. Madden’s analogy to clinical trials research is incorrect and misleading

17. In an effort to justify her reliance on *assumptions* that omitting work- and job-specific variables are not a concern in an analysis of company discrimination in pay, Dr. Madden relies on an erroneous analogy to clinical trial experiments. She uses the analogy to justify not studying the assumptions on which her entire model relies, when nothing about studying actual pay in actual companies is like a controlled clinical trial experiment under laboratory conditions. And she claims that she is justified in omitting further variables based on her assumption – again untested and unproven – that those variables should not differ, on average, between men and women, or white and minority employees, within this specific population.⁹ A scientific approach requires testing, which Dr. Madden does not do, rather than simply asserting such claims.

Dr. Madden does not correctly measure the education and experience variables she does include

18. Dr. Madden’s assumption based approach precludes using Oracle variables. Thus, it is

⁹ Madden July 2019 report, p. 46.

especially crucial for her models to capture the breadth and depth of employee education and prior experience. Yet she includes only crude proxies for both education and experience, the key “human capital” variables in her model. She includes only educational level, and not major or specialization.¹⁰ She also only uses age to measure pre Oracle experience. She does not distinguish between prior experience in areas of interest to Oracle and to other companies competing directly for these employees versus prior experience in IT departments of non-competitors like Bank of America. Her analysis lumps time worked at an Oracle America, Inc. international affiliate or a company later acquired by Oracle America, Inc. in with all other “prior” experience even though those employees are working on products and services highly and specifically relevant to Oracle. She also does not account for time spent in a particular level, job, or position at Oracle, which would take into account the fact that someone in a position for five years has had a lot more time to learn the job than someone who just moved into that position. She also does not distinguish between time worked and time away from the labor market prior to arriving at Oracle. Due to these failures, her “human capital” variables do not accurately measure differences between employees or similarly situate them from a labor economics perspective, which she concedes one should do with respect to prior experience. These failures make her “human capital” analyses unreliable and inadequate to support any conclusions about the presence or absence of gender- or race-based pay differences among comparable employees. Dr. Madden claims that differences of the type I have described are “presumed” not to exist, rather than taking the data as it is. It is not a matter of presumption as to

¹⁰ Again, this is unlike her analysis of pay at the University of Pennsylvania which distinguished between “high” pay and “low” pay departments, and the business school and law school from Humanities and the Social Sciences. That report stated that “[i]f one faculty member has a more highly compensated degree, or more experience, **or has a specialty that other universities or the broader labor market compensates more highly**, he or she is more likely to receive a higher salary.” (Emphasis added; Gender Equity Report, 2001, p. V).

whether men and women in this specific group of employees, for example, have differently distributed prior work histories and educational experiences – it is a set of facts that accompany these workers as they arrive to Oracle. Assumptions are not warranted, nor are they needed when faced with the actual data.

19. As an empirical matter, Dr. Madden’s measure of education is missing for almost 60% of the employees, but Dr. Madden deemed that somehow acceptable even though her education variable does not meaningfully distinguish among over half of the individuals she studied.¹¹ Simply estimating her models over the population for whom education was recorded (as she does in Tables 1(b), 1(e), 2(b) and 2(e)) is not a suitable solution because the education data is not missing randomly by gender or race. Women and whites are statistically significantly less likely to have education information than men or Asians, meaning these models are estimated on a biased subsample of the population and are not representative.¹²

Dr. Madden in effect controls only for job title when she does add Oracle variables to her model, which is inadequate to group employees performing similar work

20. After using the handful of “human capital” variables in columns 1 through 5 of her Tables 1 through 3 – which, as described above, are fundamentally mis-measured – Dr. Madden proceeds to introduce what she calls “endogenous” variables¹³ (variables she assumes are

¹¹ For the entire population of 8,679 employees (anyone who worked in the 3 job functions at HQCA in 2013-2018), 58.0% are missing education information in the field Dr. Madden analyzed. In Dr. Madden’s incumbent pay population, the percentage missing ranges from 53.5% to 66.5% depending on the year.

¹² The differences between white and African-American employees are not statistically significantly different. Also, note that missing education data is quite common in company electronic human resource system databases.

¹³ In her report she describes these as follows: “Clearly, the characteristics which employees have determined and Oracle does not determine—such as race, ethnicity, gender, age, time at Oracle, and education—and which are also well known to affect compensation, are appropriate to use as controls in the analysis of compensation discrimination. Such characteristics are “exogenous” as they are not determined by Oracle’s policies or decisions about individual employees. The

entirely subject to Oracle’s control and thus tainted) into her statistical models: exempt/non-exempt status, a variable she created called “job descriptor” (like software developer or technical writer), whether an individual is a manager (M) or individual contributor (IC), and global career level. Remarkably, Dr. Madden refers to employees sharing only a job descriptor to be in the same job: “The sixth column, then, shows the gender differentials in compensation for persons of the same age, degree level, experience at Oracle and *in the same jobs* within race and ethnic groups.”¹⁴ By that logic, a Software Developer 1 is in the “same job” as a Software Developer 6. According to Oracle documentation, however, someone in a level 1 job contributes by “following directions,” whereas a level 6 employee in the same career path is a leader who “[m]anages and plans implementation of company policy for achieving business goals.”¹⁵ Such employees are not doing similar work.

21. By column 8 in her tables, which adds global career level and whether someone is a manager or individual contributor, Dr. Madden is in effect controlling for standard job title.¹⁶

This roughly approximates the analyses the OFCCP performed in support of the NOV and SAC.

preferred analyses of discrimination are those that measure the extent of discrimination using only exogenous employee characteristics as controls in the analyses.

“The values of other characteristics that influence compensation—such as job and management responsibilities, or global career level—are set by Oracle in evaluating individual employees and the values of such characteristics are likely to be affected if there were discrimination. Such characteristics are “endogenous” as they are determined by Oracle’s policies or decisions about individual employees. Endogenous characteristics cannot be used in any analyses of whether discrimination has occurred. Endogenous characteristics may be included in an analysis of discrimination, however, in order to assess the mechanisms by which discriminatory compensation occurs.” (Madden report, p. 8)

¹⁴ Emphasis added; Madden report, p. 16.

¹⁵ ORACLE_HQCA_0000022906 Career Level Guidelines Matrix Oracle.xls. See also paragraph 41 of my initial report.

¹⁶ If instead of adding the variables separately as in columns 6, 7 and 8 of her tables, I instead simply add standard job title after column 5, the coefficients and associated t-statistics are virtually unchanged. For African-Americans in 2013 and 2017, the results become more negative.

As I noted in my previous report, however, standard job title alone does not similarly situate employees. For that, the analyst needs more information about the products being worked on and the associated skills being required. For example, a Software Developer 4 position posted in the “Real World Performance” organization called for “Oracle Database skills,” a “strong SQL background,” and a “working knowledge” of how to manipulate databases quickly.¹⁷ The same standard job title – Software Developer 4 – but in the Oracle Business Intelligence organization required “fluency in C++,” and experience “improving performance and scalability of server products.”¹⁸ Again, this attention to specialization is not unlike the University of Pennsylvania pay equity study that distinguished between “more highly compensated degree[s]” or “has a specialty that other universities or the broader labor market compensates more highly.” In short, in columns 6 through 8, Dr. Madden is not, as she claims, examining the mechanisms through which discrimination occurs but rather she is falling short of an analysis that would compare pay among employees doing similar work.

There are a number of other errors in Dr. Madden’s measurement of the variables she does include in her analysis

22. There are additional errors in Dr. Madden’s work. Her measure of total compensation is incorrect because she relies on Medicare wages which include any stock awards cashed in that year that may have been awarded in some other year, and exclude stock awards in a year being analyzed that were not cashed in that year (Saad July 2019 Report paragraph 105). She also inappropriately aggregates across job functions. The original NOV results showed that (using the OFCCP’s model) just 3 of 16 job functions had possible pay issues, which suggests that not

¹⁷ iRec Vacancy IRC1543641 in IRec Data (ORACLE_HQCA_0000070747_HQCA_IREC_DATA.xlsx).

¹⁸ iRec Vacancy IRC2217752 in IRec Data (ORACLE_HQCA_0000070747_HQCA_IREC_DATA.xlsx).

all job functions are alike or should be analyzed together. Thus, there is no justification for aggregating across the three job functions studied here (and indeed, the OFCCP did not do so in their analyses supporting the NOV and SAC). Referring to analysis contained in my initial report, correcting these errors, and, introducing additional indicators of type of work performed (such as organization) and level of technical skill into the statistical models in order to compare employees who are more similar with respect to their work circumstances, indicates no pattern of pay outcomes adverse to women, Asians, or African-Americans. (Saad July 2019 Report paragraphs 121-125).

23. As described in the balance of this report, it is my opinion as a labor economist that Dr. Madden's conclusions are scientifically unsound and highly unreliable. They are based on a distorted version of what she refers to as the human capital model. Dr. Madden's analyses do not support any inference of systemic pay discrimination against women, Asians, or African-Americans and do not furnish a scientific basis to reach the sweeping conclusions she asserts.

Dr. Madden adopts an overly simplistic version of the human capital model, makes unsupported simplifying assumptions, and relies upon flawed proxies for productivity to generate her results

24. As I noted in my initial report (paragraphs 94 to 97), after conducting a statistical analysis of data for all Oracle employees in the 16 job functions represented at its Redwood Shores Headquarters location as of January 1, 2014, the OFCCP chose to bring claims of discrimination by Oracle against women in just three of those 16 job functions (PRODEV, INFTECH, SUPPORT) and for Asians and African-Americans in only one job function (PRODEV). In other words, they did not find evidence of adverse outcomes for women, Asians, or African-Americans in a majority of the functions they studied. Nonetheless, their theory that pay outcomes are the result of a standard practice at Oracle posits a single set of common pay

policies for starting pay and wage growth thereafter. No explanation of why those policies do not have comprehensive adverse impact is offered. In my initial report, I pointed out this inconsistency (paragraph 95). I also pointed out that the analyses the OFCCP relied upon in the SAC failed to appropriately control for the skills of employees or the nature of the work they were engaged in, such that their statistical comparisons did not serve to similarly situate employees from a labor economics perspective (paragraphs 108-119). As such it was and remains my opinion that one cannot make any of the inferences of discrimination that OFCCP drew based on those analyses.

25. The OFCCP has now asked its outside expert Dr. Janice Madden to analyze data and information produced in this case. Dr. Madden's report is essentially focused entirely on pay with a short and highly flawed analysis of starting pay and a single appendix table that deals with promotion. Tables 1(a) through 3(c) share a similar construction. Each table focuses on a particular target population (all employees, those employees with education data among the files/fields she reviewed, etc.) and summarizes a series of sequentially constructed regression models studying a particular pay metric (total pay, base pay, stock, etc.). Table set 1 relates to gender, Table set 2 to Asians, and Table set 3 to African-Americans. The different tables within each set are for a focus on total pay or base pay, or limit the population analyzed in various ways.

26. Each of the three sets of tables starts by inserting only the protected characteristic as a variable to explain pay. The result is shown in column (1) in each of these tables. The only "control" in the first regression model on each table is the protected characteristic, and as such, all of the column (1) models are simple comparisons of the overall average pay for all women compared to all men, or all Asians compared to whites, etc. After column (1), Dr. Madden

proceeds to sequentially add variables to the regression model. Starting with Table 1(a) as an example, which focuses on women and uses Medicare wages as the dependent variable, column (2) adds a race variable to the gender model in column (1). This is different from OFCCP's approach, which left race out of the gender model, and gender out of race models. Column (3) adds age, column (4) adds education level, and column (5) adds time since hire at Oracle. Note that at each step, all previously added variables are retained, such that the model in column (5) has gender, race, age, education level, and time since hire at Oracle. These are all variables which Dr. Madden states are "exogenous" to Oracle, meaning not under the control of Oracle. Dr. Madden claims that for purposes of studying pay at Oracle, her variables fully capture the relevant differences between employees in their productive attributes. Her opinions regarding the extent of the difference in pay at Oracle for each of the protected groups is based on Column (5) – that is, the pay differences are assessed taking into account only the "exogenous" variables considered by Dr. Madden.

27. Columns 6, 7 and 8 add exempt/non-exempt plus job descriptor, "management control", and global career level, respectively. By labeling these variables "endogenous," Dr. Madden is essentially arguing that Oracle's hundreds of managers are making systematic and biased decisions against thousands of employees.¹⁹ Dr. Madden does not acknowledge that the skills, experience or expertise that a worker brought with him or her to Oracle could influence, for example, which job an employee occupies, and instead is arguing that if there turns out to be any difference in the job distribution within Oracle, and the result of that is that women, Asians or African-Americans earn less, then this distribution must somehow have been forced upon these

¹⁹ As detailed in my initial report, in paragraphs 98 to 103, OFCCP's models as applied to the data suggest that different Oracle supervisors make different decisions regarding pay for women and non-white employees, undermining the OFCCP's hypotheses about uniform decision-making across the company.

protected groups by Oracle.

28. Comparing employees who are the same when measured only against Dr. Madden’s statistical controls of age, education level, and time since hire at Oracle underscores just how inadequate these measures are. Consider the employees with Person IDs 175834 and 185819. According to Dr. Madden’s column 5 regression model, they should earn the same, because both are white men²⁰ who were [REDACTED] years old, had both worked at Oracle for 19.9 years, and had “unknown” or “missing” education levels according to Dr. Madden’s education variable.²¹ Looking beyond Dr. Madden’s “human capital” education level and age variables, one sees that the first of these employees was in 2017 a [REDACTED] with 2017 Medicare Earnings (Madden’s measure of total compensation)²² [REDACTED]. The other employee was a [REDACTED], with Medicare Earnings of [REDACTED]. I do not have their resumes, but according to their publicly available LinkedIn profiles, Employee 175834 has a B.A. in [REDACTED] from San Francisco State University, and his only other listed work experience was owning a [REDACTED].²³ Employee 185819 lists having attended the New School but does not indicate the degree earned, and indicates over 16 years of experience working as a [REDACTED]

²⁰ Note that these employees have the same race and gender, such that neither attribute can explain any pay differences between them.

²¹ As noted above, Dr. Madden’s education control is coded as “MISSING” for almost 60% of the data – i.e., it is the most common value used in her analysis. This essentially means that one of the only three variables Dr. Madden did include contains very little information that could actually be used to distinguish among employees in her model.

²² I have explained the problems with reliance on Medicare Earnings as a measure of total compensation, and do so again below. July 2019 Report paragraph 105.

²³ LinkedIn: [REDACTED] ([https://www.linkedin.com/in/\[REDACTED\]-5a1823](https://www.linkedin.com/in/[REDACTED]-5a1823)), accessed on August 12, 2019.

Example 1 of Employees Dr. Madden's Model Considers Similar		
Year-End 2017		
Employee	Person ID: 175834	Person ID: 185819
<i>Pay Information</i>		
Base Pay	██████████	██████████
Bonus	██████████	██████████
Stock	██████████	██████████
Medicare Earnings	██████████	██████████
Total Compensation (Base Pay + Bonus + Stock)	██████████	██████████
<i>"Exogenous Variables" from Dr. Madden's Model</i>		
Gender	Male	Male
Ethnicity	White (Not Hispanic or Latino)	White (Not Hispanic or Latino)
Age (End of 2017)	██████████	██████████
Madden's Highest Education	Unknown	Unknown
Madden's Oracle Tenure (in years)	19.9	19.9
<i>"Endogenous Variables" from Dr. Madden's Model</i>		
FLSA Status	Exempt	Exempt
Job Descriptor	PROGRAM MGMT-PRODDEV	PRODUCT DEVELOPMENT
Global Career Level	IC4	M7

²⁴ LinkedIn: ██████████ (https://www.linkedin.com/in/██████████ accessed on August 12, 2019.)

<i>Additional Variables Ignored by Dr. Madden</i>		
Job Title	Program Manager 4-ProdDev	Product Development SVP
Organization Name	[REDACTED]	[REDACTED]
Ever Received a Patent Bonus	No	Yes
Time in Job Title (in years)	2.8	9.7
Discretionary Job Title	[REDACTED]	[REDACTED]
<i>Information from LinkedIn</i>		
Education	BA in [REDACTED], San Francisco State University	The New School, no degree listed
Previous Roles	[REDACTED] Owner	[REDACTED]

29. Consider Person ID 891214836 (male) and Person ID 889964570 (female). Both have the same level of education according to the variable used by Dr. Madden (master’s degree), are the same age as of year-end 2016 ([REDACTED] years old), are the same race (Asian), and share the same amount of time since hire at Oracle (about 5.5 years). The man was in a [REDACTED] [REDACTED] role with [REDACTED] in 2016 Medicare Earnings, and the woman was in a [REDACTED] [REDACTED] role with [REDACTED] in 2016 Medicare Earnings. Dr. Madden’s approach would again predict the same earnings for each – and attribute any pay difference between them to an inference of gender discrimination by Oracle – and would further insist that the enormous difference in their jobs has nothing to do with the employees and only has to do with Oracle’s “assignments.” This is obviously an absurd suggestion, especially given the information that was produced in this case specific to them. Their resumes point to systematic *prior* relevant skill and experience differences that Dr. Madden’s models do not account for, and given her decision not to include Oracle variables, her failure to structure her analysis using these

details is a glaring omission. The female's resume shows that she has a Master's degree in [REDACTED] and an M.B.A., and her work history includes an [REDACTED] year gap between working at [REDACTED] and Oracle, meaning that she was not in the labor market gaining additional work experience for that period of time.²⁵ The male holds a Masters of [REDACTED] a [REDACTED], and a Bachelor of [REDACTED] degree, and had 18 years of continuous employment in the technology industry when he applied to Oracle.²⁶

Example 2 of Employees Dr. Madden's Model Considers Similar		
Year-End 2016		
Employee	Person ID: 891214836	Person ID: 889964570
<i>Pay Information</i>		
Base Pay	[REDACTED]	[REDACTED]
Bonus	[REDACTED]	[REDACTED]
Stock	[REDACTED]	[REDACTED]
Medicare	[REDACTED]	[REDACTED]
Total Compensation (Base Pay + Bonus + Stock)	[REDACTED]	[REDACTED]
<i>"Exogenous Variables" from Dr. Madden's Model</i>		
Gender	Male	Female
Ethnicity	Asian	Asian
Age (End of 2017)	[REDACTED]	[REDACTED]
Madden's Highest Education	Masters	Masters
Madden's Oracle Tenure (in years)	5.3	5.9

²⁵ ORACLE_HQCA_0000302429.

²⁶ ORACLE_HQCA_0000083484.

<i>"Endogenous Variables" from Dr. Madden's Model</i>		
FLSA Status	Exempt	Exempt
Job Descriptor	SOFTWARE DEVELOPMENT	PRODUCT MGMT/STRATEGY-PRODDEV
Global Career Level	M6	IC4
Job Function	PRODEV	PRODEV
<i>Additional Variables Ignored by Dr. Madden</i>		
Job Title	Software Development VP	Product Manager/Strategy 4-ProdDev
Organization Name	[REDACTED]	[REDACTED]
Ever Received a Patent Bonus	Yes	No
Total Oracle Years	5.3	5.9
Time in Job Title (in years)	2.7	1.2
Education Major	Technology	Business, MIS
Discretionary Job Title	[REDACTED]	[REDACTED]
<i>Information from Resumes</i>		
Education	M.Tech., National Institute of Technology [REDACTED] India [REDACTED] Andhra University, India	MBA, University of Houston, Texas M.A. (major in [REDACTED]) from Madras University, India
Certifications	0	4
Number of Patents	1	0
Awards	Multiple Appreciation Awards from [REDACTED] PBG and Delivery Groups for architecture guidance for strategic customer solutions using [REDACTED] products; Significant Product Architecture Contribution award for development of [REDACTED] Service Management Suite & Improvement of [REDACTED] Products Operability Initiatives; Multiple Product Innovation Recognition Awards at [REDACTED] Best Product Quality Contributor Award at [REDACTED]; Appreciation award for Technical Marketing of Games	Dean's Academic Excellence Award

	Management System for 20th SEA Games, Technology Innovation award for Implementation of [REDACTED] at [REDACTED]	
Previous Roles	[REDACTED] CRM Chief Architect (Sr. Director role), CTO Office; [REDACTED] Chief Architect (Director Role); [REDACTED] Principal Software Architect; [REDACTED] Principal Engineer; [REDACTED] Inc.: Senior Consultant; [REDACTED] Project Manager; [REDACTED] Solutions Architect; [REDACTED] Senior Engineer	Oracle: [REDACTED] Certified Consultant [REDACTED] Systems: [REDACTED] Customer Certified Consultant [REDACTED] LLP: Consultant-CRM Practice
Requisition Information		
iREC Job Posting Description	As a Senior Director of the software engineering division, you will apply your extensive knowledge of software architecture to manage software development tasks associated with developing, debugging or designing software applications, operating systems and databases according to current and future design specifications. Build enhancements within an existing software architecture and envision improvements to the architecture. Directs and ensures the implementation of operational policies through subordinate managers Interacts internally and externally with executive management involving negotiation of difficult matters to influence policy. Functional expertise and broad company knowledge. Demonstrated leadership and people management skills. Strong communication skills, analytical skills, thorough understanding of product development. ²⁷	Lead a team that acts as the central resource and driving force for the design, process, manufacturing, test, quality and marketing of product(s) as they move from conception to distribution. Organize interdepartmental activities ensuring completion of the project/product on schedule and within budget. As a member of the product development division, you will analyze and integrate external customer specifications. Suggest and justify product directions and specifications. Specify, design and implement moderate changes to existing software architecture. Build new products and development tools. Build and execute unit tests and unit test plans. Review integration and regression test plans created by QA. Communicate with QA and porting engineering to discuss major changes to functionality. ²⁸

²⁷ iRec Vacancy IRC1579651 in IRec Data (ORACLE_HQCA_0000070747_HQCA_IREC_DATA.xlsx).

²⁸ iRec Vacancy IRC2909549 in IRec Data (ORACLE_HQCA_0000070747_HQCA_IREC_DATA.xlsx).

30. As another example, consider Person ID 888762142 (female) and Person ID 10334044 (male). Both have BE and MS degrees in computer science, are similar in age, are the same race (Asian), and share the same amount of time since hire at Oracle (about 6.5 years). Her Medicare Wages were [REDACTED]. Dr. Madden's approach would again predict the same earnings for each. Their resumes²⁹ point to systematic *prior* relevant skill and experience differences that Dr. Madden's models do not account for, including an additional 8.9 years of Oracle experience for her once her work at a firm acquired by Oracle is accounted for. Their job responsibilities also markedly differ. Her job responsibilities include creation of division strategy and business success; he develops and designs software. None of this relevant and available material is included in Dr. Madden's model and yet she argues that her model compares employees who have similar skills and responsibilities and perform similar work. Simply handwaving away any potential group differences in these characteristics that drive pay differences, as Dr. Madden does, rather than test the strength of that assumption is scientifically unjustifiable.

²⁹ ORACLE_HQCA_0000082603 and ORACLE_HQCA_0000083064.

Example 3 of Employees Dr. Madden's Model Considers Similar Year-End 2014		
Employee	Person ID: 888762142	Person ID: 10334044
<i>Pay Information</i>		
Base Pay	[REDACTED]	[REDACTED]
Bonus	[REDACTED]	[REDACTED]
Stock	[REDACTED]	[REDACTED]
Medicare Wages	[REDACTED]	[REDACTED]
Total Compensation (Base Pay + Bonus + Stock)	[REDACTED]	[REDACTED]
<i>"Exogenous Variables" from Dr. Madden's Model</i>		
Gender	Female	Male
Ethnicity	Asian	Asian
Age (End of 2017)	[REDACTED]	[REDACTED]
Madden's Highest Education	Masters	Masters
Madden's Oracle Tenure (in years)	6.2	6.7
<i>"Endogenous Variables" from Dr. Madden's Model</i>		
FLSA Status	Exempt	Exempt
Job Descriptor	SOFTWARE DEVELOPMENT	SOFTWARE DEVELOPMENT
Global Career Level	M6	IC5
<i>Variables from Dr. Saad's Model</i>		
Job Title	Software Development VP	Software Developer 5
Organization Name	[REDACTED]	[REDACTED]
Ever Received a Patent Bonus	Yes	No
Total Oracle Years	15.1	6.7
Time in Job Title (in years)	6.2	4.0
<i>Other Work-Related Variables</i>		
Discretionary Job Title	[REDACTED]	[REDACTED]

<i>Information from Resumes</i>		
Education	MS in Computer Science from [REDACTED] B.E. in Computer Science from [REDACTED]	MS in Computer Science from University of [REDACTED] BE in Computer Science from [REDACTED]
Previous Roles	[REDACTED] Director of eCommerce Business Intelligence Hyperion Solutions (Acquired by Oracle in 2007) [REDACTED] Server Development, [REDACTED] Senior Software Engineer [REDACTED] San Jose: Student Researcher [REDACTED] Summer Intern	[REDACTED] Inc.: R&D Manager, Staff R&D Engineer [REDACTED] Corporation: Senior Software Engineer [REDACTED] Systems, Inc.: Senior Software Engineer [REDACTED] Inc.: Member of Technical Staff [REDACTED] Inc. (Acquired by [REDACTED]): Software Engineer
<i>Requisition Information</i>		
IREC Job Posting Description	<p>As a Vice President of the software engineering division, you will apply your extensive knowledge of software architecture to manage software development tasks associated with developing, debugging or designing software applications, operating systems and databases according to current and future design specifications. Build enhancements within an existing software architecture and envision improvements to the architecture.</p> <p>Assists in the creation of division strategy and consults with senior management in providing direction to ensure growth and financial success. Ensures a consistent approach of organizational policies and procedures. Demonstrated leadership and people management skills. Strong communication skills, analytical skills, thorough understanding of product development.³⁰</p>	<p>As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. Define specifications for significant new projects and specify, design and develop software according to those specifications. You will perform professional software development tasks associated with the developing, designing and debugging of software applications or operating systems.</p> <p>Provide leadership and expertise in the development of new products/services/processes, frequently operating at the leading edge of technology. Recommends and justifies major changes to existing products/services/processes.³¹</p>

³⁰ iRec Vacancy IRC1342444 in IRec Data (ORACLE_HQCA_0000070747_HQCA_IRec_DATA.xlsx).

³¹ iRec Vacancy IRC1407549 in IRec Data (ORACLE_HQCA_0000070747_HQCA_IRec_DATA.xlsx).

Dr. Madden does not examine the underlying variability in her regression model pay outcomes, and thus does not demonstrate whether protected employees share potentially common pay experiences

31. Dr. Madden argues that individual-specific differences do not matter, and that the only relevant analysis is the comparison of compensation differences across demographic groups.³² Dr. Madden's sole focus on average group differences means she has not or cannot determine whether there is a common pattern of adverse outcomes at Oracle by race or gender. The existence of an average difference does not on its own establish that the average difference is generated by many common or shared experiences. As I wrote in my previous report,³³ the problem associated with running a regression model on a widely varying employee population is that when a model mixes apples and oranges into one pooled analysis, and estimates only the average impact of each variable (as regression models by design do), that average can mask considerable underlying variability. Again, "average" does not necessarily mean "common," if the underlying individual-level data being averaged is highly variable. The differences among employees created by their diverse attributes and a spectrum of types of work can be addressed through more refined groupings or pay factors, which in turn provide more reliable measurements of pay outcomes and differences. But Dr. Madden's analyses do not incorporate the needed refinements.

Dr. Madden's reasons for excluding Oracle variables in her pay analysis amount to assumptions and misplaced analogies to clinical trial procedures

32. As noted above, Dr. Madden discusses in her report her unwillingness to consider additional detail regarding Oracle jobs and work areas in her statistical analyses, but the explanations she provides do not hold up. On page 46 of her report, Dr. Madden writes:

³² Madden July 2019 report, pp. 6-7

³³ Saad July 2019 report, paragraph 21.

“I study the compensation practices at Oracle in order to determine whether an employee’s gender or race affect (sic) the outcomes. Therefore it is *only* necessary that the analyses compare similarly situated *groups* of employees by gender and race. Any characteristics that affect individual employee compensation levels but are possessed by (sic) equivalent proportions, or at equal levels, by both genders and races do not matter in the analysis of whether gender or race affects compensation [emphasis in original].”³⁴

33. In other words, according to Dr. Madden, since her goal is to focus only on the average group difference in pay at Oracle between, say, men and women³⁵, she does not need to worry about variables that are omitted from the regression model that would serve to better explain Oracle pay for *both* men and women, but do not differ *between* men and women. The idea is that if the distribution of some work related attribute is the same for both men and women, inserting it in a regression model will not change the value of the measured effect of being female on pay; it will only serve to improve the overall explanation of pay. In the most extreme version of this circumstance, if it were the case in an analysis of gender pay differences that *every* pay related attribute were distributed identically across male and female employees, there would be no difference in an analysis that controlled for *all* of these attributes and one that did *not* control for *any* of these attributes. Therefore, under such a scenario, comparing the simple average pay for women to the simple average pay for men would be sufficient to determine the extent of the pay difference between the two groups.

34. The problem is, of course, that Dr. Madden does not test her premise; she simply *assumes* that it holds. She further assumes that if any work-related characteristics are *not* distributed identically among men and women in the group of employees being studied, that Oracle’s discrimination somehow made this so. Thus Dr. Madden’s analysis is based on a set of untested

³⁴ Madden July 2019 report, page 46.

³⁵ The same explanation would follow for studies designed to assess differences between employees of different races.

assumptions that drive the type of conclusion she reaches in this case. Dr. Madden’s own narrative on page 46 makes this point plain:

“In the absence of evidence to the contrary, I assume [emphasis added] that employees are equivalently qualified by race and gender. No presumption that one group’s “unmeasured” qualifications, or jobs, are on average “inferior” to those of another group should be made, when the groups have, on average, equivalent measured qualifications. I assume that employees of the same age, time at Oracle, educational level and work area do not systematically differ by race or gender in their [other] qualifications. Therefore, to quantify racial or gender disparities in compensation, it is only necessary that we control for systematic differences by race of gender that remain after we have controlled for all other differences [i.e., age education and years at Oracle] that exist by group.”³⁶

35. Dr. Madden’s “measured” qualifications are, as noted above, just age, educational level, and time since hire at Oracle. Thus, according to Dr. Madden, if these measured variables are the same across protected groups, then Dr. Madden assumes that all other, unmeasured characteristics do not differ either. But this is merely an assumption; it is not a scientifically derived outcome. In the first sentence of the above passage, Dr. Madden states her position: she assumes without any basis that there are no differences between men and women at Oracle in their unmeasured (by her) work-related attributes. She claims this assumption is “without evidence to the contrary,” but of course Dr. Madden has no evidence to *support* the crucial assumption here. It is an empirical matter, not a matter of assumption, as to whether groups of Oracle employees who work in the three job functions at Oracle’s headquarters differ in their work- related attributes or not.³⁷

³⁶ Madden July 2019 report, page 46

³⁷ Dr. Madden takes it a step further in her characterization of these differences. She goes on to characterize these differences, if they exist, as implying one group is “inferior” to the other. Yet there is no need for such a word to be used or for such a connection to be drawn. All that is required is that there are differences. For example, Dr. Madden measures education level and uses it as a variable in her analyses. Dr. Madden does not suggest that one group has “inferior” education to the other – just that education might differ between the groups being studied and

36. Dr. Madden goes on to state that regression analysis is not designed to predict individual employee pay, which she appears to use as another basis for ignoring characteristics that differentiate employees and may impact pay. She states:

“This [regression focused on group differences] is fundamentally different from an analysis of individual outcomes or differences. If we want to determine what any individual should be paid, we must control for every characteristic by which any individual differs from others. An analysis of differences in group outcomes requires that we control for the characteristics by which the groups as a whole differ, but not those by which all individuals differ.”³⁸

Dr. Madden’s claim that there is no need to incorporate “every characteristic” in a pay analysis is very misleading. Econometricians recognize that in analyses involving many employees measured at repeated intervals over time (*i.e.*, annually), there could be idiosyncratic factors associated with each employee – for example, some employees may work harder, some less hard. However, Dr. Madden seems to be stretching this concept beyond these types of individual employee differences. She appears to argue that it is not important to capture all of the *systematic* or group-related influences on pay – *i.e.*, all of the variables that do, in a given group of people, vary among subsets of that group. As noted in my July 2019 Report in paragraphs 76 to 77, one should take into account all material factors that impact pay, because one cannot know *a priori* if these factors are correlated to protected characteristics. One cannot simply assume away one or more factors thought to influence pay. Here, that is what Dr. Madden has done. For example, by assuming that Oracle is biased in its assignment of jobs, Dr. Madden both ignores the facts to the contrary *and* fails to account for a material factor impacting pay. The effect can be seen by comparing columns in her Table 1(a). Dr. Madden inserts variables for “job descriptor” in column 6. Inserting this variable has a substantial impact on the measured

that may relate to pay differences at Oracle, such that any such differences should be taken into account when assessing whether there are gender- or race-based differences in pay.

³⁸ Madden July 2019 report, p. 46.

difference between male and female pay. Dr. Madden interprets this reduction in the measured gap between male and female pay as a measure of Oracle's biased job assignment decisions. As I have noted above and also described in paragraphs 150 to 156 of my initial report, women are hired for their initial jobs in an unbiased manner relative to what they apply for, and Dr. Madden's own promotion analyses demonstrate no systematic bias in promotions. In my previous report in paragraphs 112 to 119, I demonstrated that there are in fact a number of factors like organization and patent activity that relate to pay generally and are correlated with gender among this employee population, such that when properly accounted for the statistical results change dramatically.

37. Another way to state this is that I have focused in my previous report on the wide variations in the relationship of actual to regression predicted pay not to point out that there are idiosyncratic employee-level factors that were omitted from the OFCCP's SAC models, but instead to point out that these variations are caused by the omission of *group-related systematic* factors that pertain to the employees being studied differently than to other subsets of employees. This is a critical distinction that cannot be overstated: Dr. Madden claims that any variation in employee outcomes that are associated with applying her model – i.e., any demonstration that her model doesn't accurately predict pay for large numbers of the employees in her pay model – is irrelevant, because her model focuses on differences between groups, not individuals. But it is the failure to include the appropriate *group-associated* variables in the regression that produces the enormous variances in predicted outcomes, *not* the omission of the idiosyncratic factors. Take, for example, Dr. Madden's omission of standard job title in column 5 of her tables. Putting aside the issue of "taint" (which Dr. Madden would automatically ascribe to such a variable), omitting standard job title when two employees share the same race, age, education

level, and time since hire at Oracle will produce enormous unexplained differences between actual and predicted pay where – as here – individuals in the population vary widely in the type and level of jobs they hold. Recall the comparison between the employees I discussed earlier, where one earned over [REDACTED] as a Product Development SVP (career level M7) compared to [REDACTED] for the employee whose job title was Program Manager 4 (IC4 career level). By extension, any other *systematic* variables that are omitted will create the same problem: large individual variances will exist, and the measure of the group averages for male and female employees will be potentially highly biased and misleading.

38. The graph below plots Medicare wages for each employee on the vertical axis as in Dr. Madden’s gender pay model and what their predicted or regression “fitted” compensation would be based on the variables other than gender she uses to generate the results in column 5 (race, age and its squared term, level of education and U.S. Oracle tenure with its associated squared term).³⁹ I have restricted the chart to employees whose actual pay is under [REDACTED] because otherwise a disproportionate share of the data points would be compressed by the scale into the lower left corner of the chart area.⁴⁰ Each dot in the graph indicates a person-year in the data. The dashed line indicates where actual pay equals predicted pay – i.e., the line where the regression variables serve to explain the actual pay an employee received. Dots above the dashed line indicate employees who are paid more than Dr. Madden’s model predicts; dots below the line indicate employees who are paid less than her model predicts. By design, because regression models estimate the average effect, roughly half of all the points should be scattered randomly above the line and half below.

³⁹ Gender is excluded so that pay is not predicted taking gender into account.

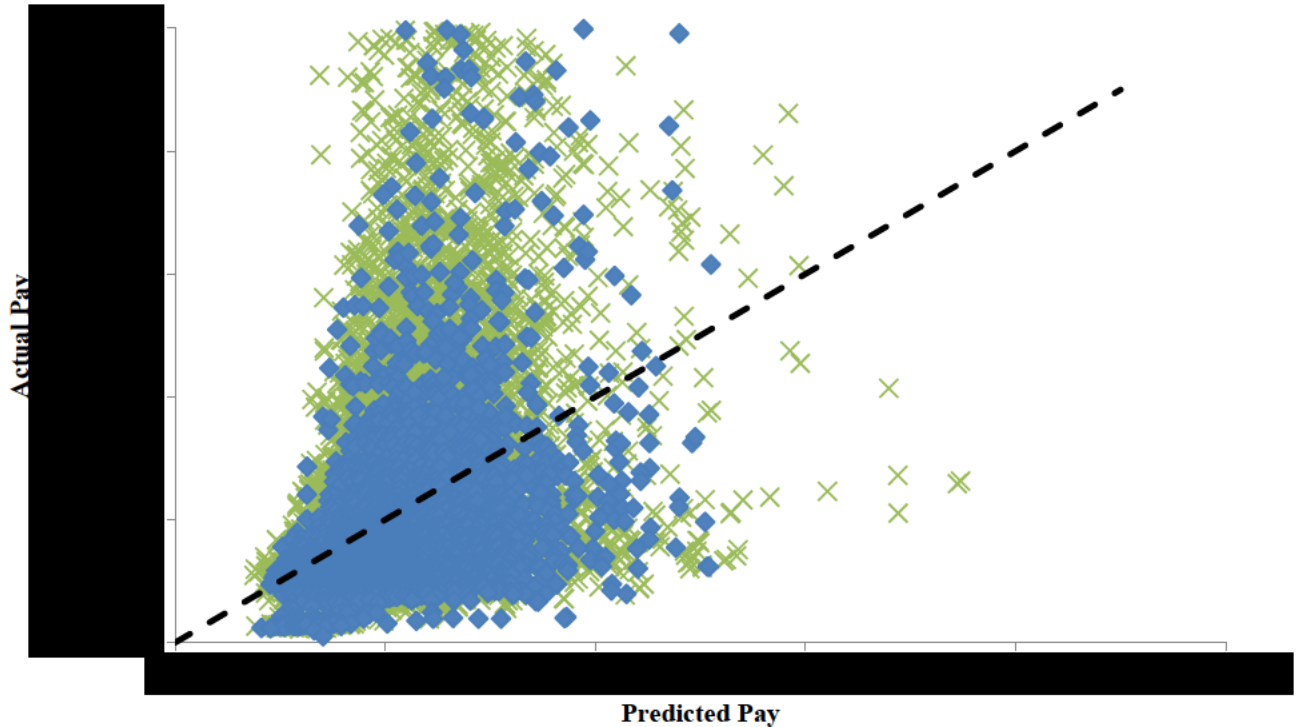
⁴⁰ In the unrestricted data, the range of regression-predicted pay ranges from [REDACTED] to [REDACTED] but actual pay ranges from [REDACTED], thereby compressing the chart visually.

Dr. Madden's Regression Model Cannot Explain Wide Pay Differences in Employees it Considers Similar: Actual vs. Predicted Total Compensation (Medicare Wages)

- Prediction Based on Dr. Madden's Model, Column 5, Without a Gender Control -

- 2013- 2018, INFTECH, PRODEV, and SUPP Job Functions -

× Male ♦ Female - - - Actual = Predicted



Not shown: 328 observations whose actual pay exceeded [redacted] Model controls for race, age, education, and time at Oracle.

39. As in similar charts I included in my initial report which were based on application of the OFCCP's regression models from the SAC, Dr. Madden's regression model cannot explain wide pay differences in employees it considers similar. For example, take the point along the horizontal axis at [redacted] which is where predicted pay equals [redacted]. If one were to draw a straight line vertically from that point upwards, it would intersect with a dot for an employee below the dashed line indicating someone whose actual pay was below the predicted amount of [redacted]. If one were to continue that same line up from [redacted] and intersect it with an employee dot above the dashed line, that is someone whose actual pay was higher than the predicted [redacted]. Both of those dots represent employees who based on their observable

characteristics, were predicted by the OFCCP model to be paid [REDACTED], but one is paid more than the expected [REDACTED] and the other employee is paid less. Indeed, the range is wider than is depicted in this chart, which is restricted to employees with actual earnings under [REDACTED]. The actual maximum pay for those predicted by Dr. Madden's model to earn [REDACTED] is far above [REDACTED].

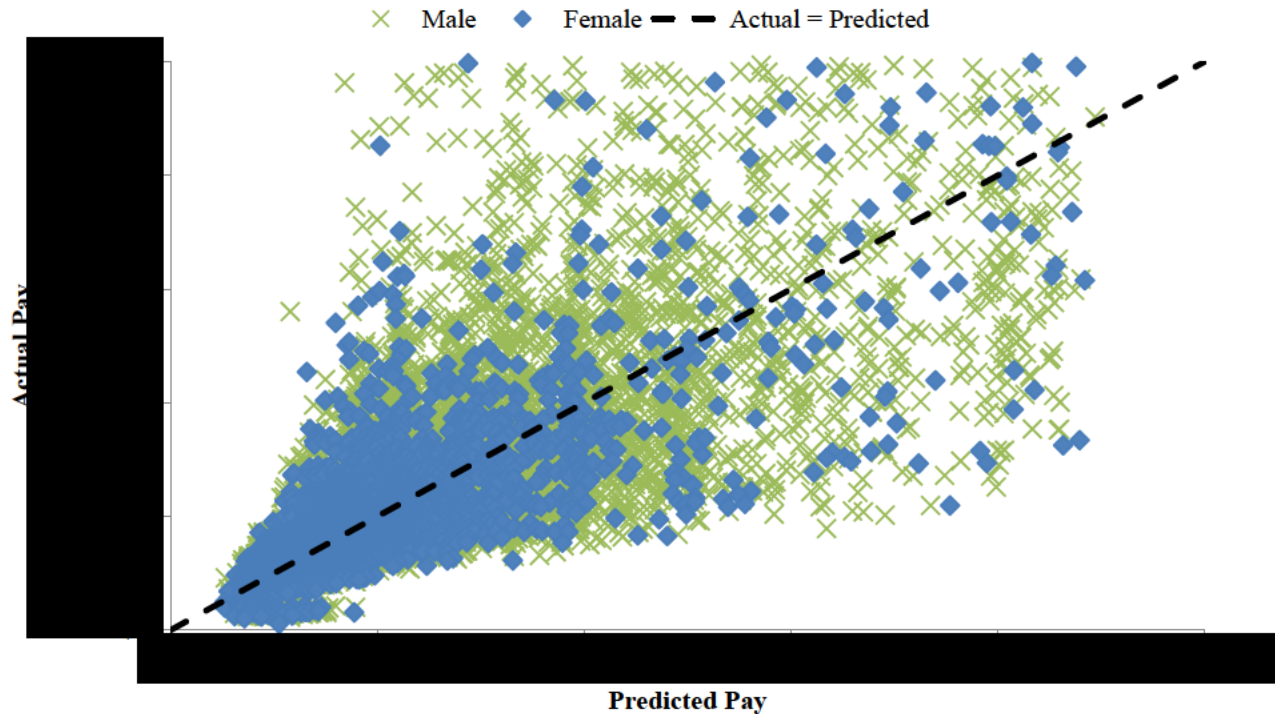
40. This wide variation in actual pay between employees that the model considers roughly similar is unexplained by the regression model; the model generates the same average prediction for all of them because they share the same values for age, educational level and Oracle tenure. There are several explanations for why the model is that far off explaining pay at Oracle. First, Dr. Madden mis-measured total compensation by including portions earned by exercising stock options from previous years. Second, the control variables used in the model do not similarly situate employees and hence do a poor job at explaining pay generally. Third, the single regression model is applied to an employee population that is far too diverse.

41. The scatterplot above was derived using the model behind column 5 of Dr. Madden's results in her Table 1. Below, I repeat the exercise, except I use the model behind Dr. Madden's column 8, which in effect controls for standard job title by adding job "descriptor," exempt status, IC or M career path and global career level. This model is similar to the one the OFCCP relies on in the SAC and it shares those flaws in that employees are not necessarily doing the same work even if they share a job title and career level. The scatterplot (again plotting only employees earning under [REDACTED]) below also reveals a great deal of variation in outcomes among employees Dr. Madden's column 8 regression model considers similar. For example, there are women who are paid well above what the model predicts and women who are paid less than what the model predicts. Person ID 97256, a female employee, had actual earnings of

██████████ in 2018 according to the data but her predicted earnings for that year were ██████████ based on the model. The same model predicts similar earnings for the female employee with the Person ID 221817 (██████████) but her actual earnings were ██████████ in 2017. Overall, the regression-predicted pay in this model ranges from ██████████, when actual pay ranges from just over ██████████

Dr. Madden's Regression Model Cannot Explain Wide Pay Differences in Employees it Considers Similar: Actual vs. Predicted Total Compensation (Medicare Wages)

- Prediction Based on Dr. Madden's Model, Column 8, Without a Gender Control -
 - 2013- 2018, INFTECH, PRODEV, and SUPP Job Functions -



Not shown: 345 observations whose actual pay or predicted pay exceeded ██████████ Model controls for race, age, education, time at Oracle, exempt/non-exempt, job descriptor, management control, and global career level.

42. Dr. Madden argues that all that matters is what happens on average, and that on average women are paid less than similarly skilled men.⁴¹ My point in looking at the scatterplots is that

⁴¹ A regression coefficient is an *average* effect, a single number that summarizes the average relationship between two variables (such as compensation and gender) holding other factors constant (such as tenure).

the average alone is insufficient for understanding the pay of protected groups. How well that average summarizes the many data points being averaged is equally important. As a labor economist, I question whether a regression model that under-predicts pay by *millions* of dollars is a reliable basis upon which to draw conclusions about the relationship between protected status and pay.

Dr. Madden’s claim that her analysis is akin to a clinical trial is completely wrong

43. Dr. Madden claims on pages 47 and 48 of her report that the statistical analysis of employment discrimination is akin to the analysis of data on treatment results in a clinical trial setting. This is incorrect. Her notion that any differences in compensation attributed to variables outside of her regression model should “wash out” is based on a fundamental misstatement of basic principles of clinical research design.

44. Clinical trial-based statistical research is formally speaking a scientific experiment, meaning it requires a *randomized assignment* of individuals to either a control group or a treatment group.⁴² It is this randomization process that ensures the effect of unobserved or unmeasured characteristics between the control and treatment groups will be expected to, and thus can be assumed to, average out. In other words, if I take a large enough population and randomly separate it into two subsets, none of the characteristics of the two subsets will be expected to differ except by random statistical fluctuation; the average height will be the same, the average weight will be the same, the average education will be the same, and the distribution of occupations will be the same. In such a context, there would be no concern about omitted variables in a statistical analysis designed to compare outcomes when you administer a medication or some other “treatment” to one group and not the other; nothing else can have

⁴² Cameron, A. Colin, and Pravin K. Trivedi. *Microeconometrics: Methods and Applications*. Cambridge University Press, 2005. Pp. 48-52.

caused whatever impact the medication has, since nothing else differs between the two groups. By intentional experimental study design, the omitted variables are irrelevant since their averaged effects are identical for *both* the treatment and the control groups because one constructs any such study with this in mind. Thus because of the neutralizing of the effects of unobservable/unmeasured factors through randomization, the effect of the treatment that is the focus of the experiment can be estimated reliably because no other intervening variable is *able* to create a difference between the treatment and control groups.⁴³ One will often as a consequence see that the statistical research is limited to very simple two variable models: the dependent variable and the single explanatory variable that is the focus of research. Such an approach is simply not possible when using real-world employment data at a particular company; such data is not generated by random assignment of employees into buckets but are instead *observed* data given *as is* to the researcher. These issues are the subject of a large literature on research design inside and outside of economics.⁴⁴ If unobserved differences between non-randomly determined groups of study subjects are unaccounted for in the statistical analysis, the estimated “discrimination effect” from a variable in the analysis for gender or race will be unreliable due to omitted variable bias.⁴⁵

⁴³ See for example, Hicks, Charles. (1982) *Fundamental Concepts in the Design of Experiments*, p. 5.

⁴⁴ Imbens, Guido W., and Jeffrey M. Wooldridge. 2009. "Recent Developments in the Econometrics of Program Evaluation." *Journal of Economic Literature*, 47 (1): 5-86. Heckman, James J., Robert J. LaLonde, and Jeffrey A. Smith. "The economics and econometrics of active labor market programs." In *Handbook of Labor Economics*, vol. 3, pp. 1865-2097. Elsevier, 1999. In 2000, Dr. James Heckman won the Nobel Prize in Economic Science because of his work on the econometrics of analyzing non-random data. Angrist, Joshua D., and Jörn-Steffen Pischke. 2010. "The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con Out of Econometrics." *Journal of Economic Perspectives*, 24 (2): 3-30.

⁴⁵ Saad July 2019 report, paragraph 77.

45. By interpreting the results in her column 5 as evidence of discrimination, Dr. Madden is at odds with what she has said on the issue of omitted variables in research she has published outside of the litigation context:

“While the economic implications of these two explanations of the sex-age differential [human capital theory and discrimination] are enormously different, both explanations are consistent with empirical studies simply because both resort to “nonmeasureables” to explain the sex-wage differential: *empirical studies cannot measure directly either discrimination or job-specific human capital. Therefore, the problem with these two competing explanations of the sex-wage differential is that neither has been empirically sorted from the other.* Both explanations are consistent with data which show a wage differential by sex after controlling for education, work experience, and job tenure. [emphasis added]”⁴⁶

46. Dr. Madden ignores the most basic principle of empirical research by *assuming* that certain variables – namely, anything and everything that is omitted from her analysis – are distributed identically across demographic groups, or even more extreme, that if these variables do differ by group, they only do so because of the discriminatory behavior of an employer. Taken to its logical extension, this view implies that every employer should look like every other employer, and the distribution of workers by demographic characteristic can never be anything but random unless there is employer discrimination. Hence a pay regression applied to a fast food franchise, or any other workplace, can and should be the same as one applied to Oracle’s headquarters and the employees working there in PRODEV, INFTECH, and SUPPORT.

Dr. Madden’s regression models have very low explanatory power, which is an indication that the variables that are left out of her analysis are responsible for most of the variation in pay and their omission cause biases in pay differences by gender and race

47. The fact that Dr. Madden’s regression models do such a poor job at explaining individual -level pay is not (as she claims) because regressions are not designed to predict or “set”

⁴⁶ Madden, Janice Fanning. "Gender differences in the cost of displacement: An empirical test of discrimination in the labor market." *The American Economic Review* 77, no. 2 (1987): 246-251, p. 246.

individual pay⁴⁷; it is because Dr. Madden has left out so many factors that would enable the regression to do a better job at capturing what matters for pay at Oracle, for these specific employees in this specific workforce. R-squared is the test statistic used in regression analysis to measure the proportion (or percentage) of variation in the variable being studied (pay), explained by the factors included in the model. R-squared ranges from zero to one, or 0% to 100%. Typically in pay regressions conducted on census data, which has none of the detail that company data contains, R-squared will range up to 50%. In company data R-squared can range upwards of 90%.⁴⁸ For the first five columns of Dr. Madden's Table 1(a), R-squared ranges from 2.9% (average across the years in her analysis when only gender is in the model) , to 20.6% for column 5, which has gender, race, age, education level, and time since hire at Oracle as variables. These are very low R-squared figures for an analysis examining company-level data. In other words, the final model Dr. Madden endorses to test for pay biases – column 5 – leaves nearly 80% of the variance in pay among employees unexplained. Even the model underlying column 8 only has an adjusted R-squared of about 69% on average. With so much of the explanation of pay left out of the model, one should be concerned that what is omitted would greatly impact the gender coefficients that Dr. Madden relies upon, because some of these omitted variables could be correlated to gender or race.

⁴⁷ Madden July 2019 report, p. 6

⁴⁸ R-squared is a quantitative measure of how well the regression model fits the data. A model that explains none of the variation in the dependent variable has an R-squared of 0; a model which perfectly predicts the variation in the dependent variable has an R-squared of 1 (Gujarati (1988), p. 67). Whether a particular R-squared is high or low depends on the data being analyzed. In time series data, R-squared tends to be quite high. An R-squared of 0.9 in a time series might be considered low. In Census data or in other one-time cross-section surveys collected across a broad swath of the population, an R-squared of 0.3 might be considered reasonably high. Data collected in a single company provides a great deal of detail about employees, unlike widely accessible databases like the Census which collects data on non-workers, pilots, teachers, janitors and entertainers, among others. One therefore expects much higher R-squared results in single company data.

Dr. Madden’s education variable focuses only on degree earned, not on major, and is missing for most incumbents

48. Dr. Madden’s “human capital” model does not adequately control for even the limited “human capital” measures she tries to include. Note my earlier point that if Dr. Madden thought that all Oracle variables should be excluded, then she had an extra burden to take great care in constructing the variables that were supposed to measure human capital prior to Oracle employment. She took virtually no care with this process. With respect to education, Dr. Madden assumes that all details left out of her model – type of major, where the school degree was earned from, whether a master’s degree was an M.S., an M.B.A., or an M.P.H. – would wash out, in the sense that they would not differ by gender or race. But there are substantive differences in the kinds of educational skills (part of that “human capital”) obtained by employees that are key to explaining their pay regardless of race or gender. Consider the two employees having Person IDs 891719539 and 892277125. Both are white women with bachelor’s degrees, 51-53 years old, and have about two years of experience at Oracle when measured in 2014. But employee 891719539 was a [REDACTED] with a salary of [REDACTED]; and the other was a [REDACTED] earning [REDACTED]. According to Dr. Madden’s model, they should be paid the same. But the former has a B.S. in Computer Engineering and work experience that includes IBM and Sun Microsystems, according to her resume that was produced during discovery.⁴⁹ The latter has a B.S. in Economics and Financial Analysis, and her previous experience was at Keynote Systems and at Wal-Mart.⁵⁰ Consider Person ID 203526 as well. Her degree is DVM (Doctor of Veterinary Medicine) and her experience includes just over 2 years working as a vet and more than 5

⁴⁹ ORACLE_HQCA_0000085524

⁵⁰ ORACLE_HQCA_0000086748

months as a researcher at Stanford's Medical School.⁵¹ Person ID 891093873 holds B.S. in Psychology and worked for about 4 years in neuropsychology research and as a sleep study technologist.⁵²

49. College major and field of study are unquestionably omitted variables relevant to Dr. Madden's analysis, and there is no reason to simply assume that they are distributed identically across the demographic groups. In fact, these characteristics may not be identically distributed – either at Oracle or in the population at large. According to the National Center for Education Statistics, in 2014-15, 17.1% of college degrees earned by white men were in computer and information science, engineering and engineering technologies and engineering-related fields.⁵³ The corresponding percentage for Asian men was 24.3%, for African-American men 12.7%, for white women 2.7%, for Asian women 6.1%, and for African-American women 2.3%. There is no evidence that everything left out of Dr. Madden's model is demographically neutral and can safely be ignored. The logic of including education level in her model but not specialization seems to be that there are important differences between genders and race with respect to educational level but not educational specialization.

50. The available data from Taleo, iRec and other sources Dr. Madden used to gather information on degree earned also lists college majors for Oracle employees, and though she included them in her dataset, she did not utilize the information.⁵⁴ Her dataset shows that women were less likely to major in computer science and engineering than were men among the

⁵¹ ORACLE_HQCA_0000301172

⁵² ORACLE_HQCA_0000083767

⁵³ See National Center for Education Statistics Table 322.40. Bachelor's degrees conferred to males by postsecondary institutions, by race/ethnicity and field of study: 2014-15 and 2015-16 and Table 322.50. Bachelor's degrees conferred to females by postsecondary institutions, by race/ethnicity and field of study: 2014-15 and 2015-16 in Attachment C to this report.

⁵⁴ Dr. Madden searched Taleo, iRecruitment, and miscellaneous tables from the GSI system for educational level and major (though she does not use the major data). If education was missing from all these sources, Dr. Madden looked at resumes where available.

population being studied (73% versus 79%), and more likely to major in business (15% versus 12%).⁵⁵ These differences are statistically significant.

Male Versus Female Areas of Study in Dr. Madden's Data				
Area of Study	Male		Female	
	N	%	N	%
COMPUTER SCIENCE & ENGINEERING	1,741	79.1%	527	73.2%
BUSINESS/MBA	260	11.8%	107	14.9%
STEM NON ENGINEERING	128	5.8%	32	4.4%
OTHER NON-SCIENCE	72	3.3%	54	7.5%
UNKNOWN	1	0.0%	0	0.0%
Total	2,202	100.0%	720	100.0%

Note: Unknown category contains majors with in indiscernible characters or abbreviations.

51. Similarly, Asians were more likely to have majored in computer science and engineering than whites (84% versus 60%), and less likely to major in business (10% versus 18%). These differences are also statistically significant. Yet Dr. Madden did not incorporate any of this information alongside education in her model, thereby attributing any pay differences between women and men, or Asians and whites that were actually generated by differences in their educational specialties to hypothesized discrimination by Oracle.

⁵⁵ I grouped the various detailed majors in the data into the categories for easier viewing.

Asian Versus White Areas of Study in Dr. Madden's Data				
Area of Study	Asian		White	
	N	%	N	%
COMPUTER SCIENCE & ENGINEERING	2,176	83.6%	293	59.9%
BUSINESS/MBA	264	10.1%	88	18.0%
STEM NON ENGINEERING	119	4.6%	56	11.5%
OTHER NON-SCIENCE	42	1.6%	52	10.6%
UNKNOWN	2	0.1%	0	0.0%
Total	2,603	100.0%	489	100.0%

Note: Unknown category contains majors with in indiscernible characters or abbreviations.

52. African-Americans were less likely to major in computer science and engineering than whites (54% versus 60%) but the difference is not statistically significant.

African-American Versus White Areas of Study in Dr. Madden's Data				
Area of Study	African-American		White	
	N	%	N	%
COMPUTER SCIENCE & ENGINEERING	14	53.8%	293	59.9%
BUSINESS/MBA	6	23.1%	88	18.0%
OTHER NON-SCIENCE	6	23.1%	52	10.6%
STEM NON ENGINEERING	0	0.0%	56	11.5%
Total	26	100.0%	489	100.0%

53. Both national data on computer science and engineering degrees and Oracle data on college majors indicate that employees of different genders and races tend to have different educational specialties. These types of details speak directly to “group differences” in key

variables that Dr. Madden argues must be accounted for and yet her model does not account for them. Indeed, as published work in labor economics makes clear, a “fundamental problem” that impacts simplistic wage regressions “is that the control variables that are included [] may not fully capture marginal productivity differences. In particular, when there are unmeasured productivity differences that are systematically different across groups (e.g., race or sex), spurious evidence of discrimination can result.”⁵⁶ These problems have led many economists to suggest that “we should look to other methods” to more reliably study pay discrimination.⁵⁷ There is no sense in which group is “inferior” to the other, to use Dr. Madden’s term – just that they are different. In some companies women may possess educational credentials that earn them more than men; in other companies, it could be the opposite. Dr. Madden included this information in her dataset but then did not use it.

54. Remarkably, of the three “human capital” variables in Dr. Madden’s pay models (age, education level, and time since hire at Oracle), one – education level – is missing for more than half the incumbents in the data that Dr. Madden used. In Dr. Madden’s data, 53.5% to 66.5% of incumbents are missing education, depending on the year. Her model generates statistically significant coefficients on having attained a Ph.D., which is easy enough to understand, but also for those for whom education information is coded as “missing”; there is no readily apparent reason why having missing education information in Dr. Madden’s dataset should correlate at all (much less to a statistically significant degree) with pay, which underscores that this variable is available in a non-random way. Thus, although Dr. Madden relies on just three variables in her “human capital” model, one of them is functionally useless in accurately distinguishing among

⁵⁶ Hellerstein, Judith K., and David Neumark, 2006. “Using matched employer-employee data to study labor market discrimination.” In *Handbook on the Economics of Discrimination*, ed. William Rodgers, 29–60, page 5. Cheltenham, UK: Edgar Elgar.

⁵⁷ Hellerstein and Neumark (2006), page 6.

employees and to the extent the information is available, it is only for a non-random subset of the population.

55. Women are statistically significantly more likely to have missing degree earned information than men, and Asian employees are statistically significantly less likely than white employees to be missing degree data. The differences between white and African-American employees are not statistically significantly different. One of the few “human capital” variables Dr. Madden relies on is also missing non-randomly for the groups whose pay is being compared. In other words, the gender and race coefficients are picking up some of the impact of missing education rather than supposedly measuring Dr. Madden’s hypothesized discrimination.

56. The amount of missing information is also higher than it should be because of an error in Dr. Madden’s computer program that codes 79 incumbents as having missing education when their information is actually available.⁵⁸ For example, Person ID 892355381 is marked as having unknown education level in Dr. Madden’s dataset. However, her resume shows that she has a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology.⁵⁹ According to the Madden dataset, Person ID 891327204 is also missing education information. His resume shows he completed a Bachelor of Engineering (B.E.) in Information Science and Engineering from B.M.S. College of Engineering, Bangalore (Bangalore University), India. He also has a Diploma in Financial Services/ Planning from

⁵⁸ The problems that created this error in Dr. Madden’s data are, first, a data merge that relied on the incomplete variable `gsipartyid` rather than `person_ID`: 57 incumbents are missing values for `gsipartyid` and so her program does not merge on their available education information. An additional 22 incumbents had degree information manually coded in a file called “`posthandediting.xlsx`,” but the computer program “`AssemblePeople.do`” never retrieves that Excel file to merge on the education data. In all, 79 incumbents for whom education data was in fact available were coded as missing education information.

⁵⁹ ORACLE_HQCA_0000304749

Securities Institute Academy, Sydney.⁶⁰ Person ID 893502891's resume lists a Master of Science in Engineering in Computer Science from University Sapienza of Rome but is missing education information in Dr. Madden's dataset.⁶¹ Similarly, Person ID 893950895 has a Bachelor of Arts in Philosophy from California State University, Chico but has been flagged as missing education in the Madden data.⁶²

57. Dr. Madden's pay models do not control adequately for degree earned, in that the data are missing for over half the incumbents in the data sources she used, and she does not use any of the available information on educational specialization or institution granting the degree. These issues render her "education" control inadequate. As I discuss below, the measures she relies on for experience and tenure are similarly problematic.⁶³

Dr. Madden's experience and tenure variables are inadequate

58. In an attempt to control for "experience," Dr. Madden controlled for age, age squared, tenure at Oracle America, Inc., and tenure squared.⁶⁴ But these controls are inadequate. It is untenable from a labor economics perspective to think that after holding educational degree constant, age is all it takes to similarly situate employees with respect to skills, experience, and abilities prior to their arrival at Oracle, at which point they will work in jobs that are highly complex and tremendously varied in work content. Dr. Madden does nothing to take into account differences in the nature of prior experience. She simply assumes that whatever differences there are between employees has no correlation to gender or race. However, at the

⁶⁰ ORACLE_HQCA_0000084485

⁶¹ ORACLE_HQCA_0000300345

⁶² ORACLE_HQCA_0000302615

⁶³ I remind the reader that in my pay analysis, the omission of education is not an issue since I have utilized a number of variables from Oracle that correlate with education and skills that employees had at hire.

⁶⁴ She does adjust tenure to subtract off leaves of absence at Oracle America Inc. by only counting time an employee's status is "Active."

risk of being repetitious, this is only an assumption on her part, because she does not address the questions empirically.

59. Dr. Madden's experience variable ignores important components of relevant prior experience that are included in the data. Dr. Madden treats time worked at Oracle India or any other international Oracle affiliate like work in the general labor market rather than direct experience with Oracle products or services. For example, Person ID 894183158 has over 16 years of Oracle India experience and almost one and a half years at Tata Consulting Services, as indicated by his continuous service hire date and resume used for his hire application.⁶⁵ Surely previous work at Oracle is more relevant to pay than non-Oracle work. Similarly, time worked at non-tech companies is lumped together with time worked at tech companies, which results in inaccurate estimates of truly relevant experience. Person ID 891648358 worked for 5 years as a substitute teacher in Spokane Public schools (as well as several other public school teaching positions) while working as an "on call" IT consultant.⁶⁶ Person ID 891120048 worked as a "Sequencing Associate" for three years at beginning of her career in lab tech roles.⁶⁷ In contrast, other experience is highly relevant. Person ID 892093428 was the Director of Azure Platform Quality Assurance at Microsoft (Azure is Microsoft's cloud platform which competes directly with Oracle's offerings).⁶⁸ Person ID 890828962 worked at Google as a Senior Software Engineer.⁶⁹ Person ID 7933 was a Senior Director at Ebay and a Senior Architectural Engineer at Microsoft.⁷⁰ Person ID 124243 worked as Global Head of Data Architecture & Infrastructure

⁶⁵ ORACLE_HQCA_0000304127

⁶⁶ ORACLE_HQCA_0000085283

⁶⁷ ORACLE_HQCA_0000087999

⁶⁸ ORACLE_HQCA_0000086216

⁶⁹ ORACLE_HQCA_0000083187

⁷⁰ ORACLE_HQCA_0000301320

at Paypal.⁷¹ All of this experience is included in Dr. Madden’s pay model as equivalent “years of experience” measured using age.⁷²

60. Moreover, simply controlling for age ignores the well-documented fact⁷³ that women are more likely to have spent time out of the workforce than are men of comparable age. As I demonstrated in my initial report in paragraph 112, this is true at Oracle as well. Dr. Madden’s model accounts for leaves of absence at Oracle but does not account for this difference in non-work time prior to Oracle. Her model forces the effect of that difference through the gender coefficient in her model – that is, it inappropriately attributes unmeasured differences in work experience to gender discrimination. As she notes, the problematic exclusions from her model are the ones that are correlated with gender or race, because omitted variable bias makes the gender and race coefficients unreliable measures.

61. Because Dr. Madden aggregates her model across job functions and organizations, the effect of company tenure – i.e., the impact of an additional year at Oracle on pay for a given

⁷¹ ORACLE_HQCA_0000302319

⁷² These differences are also not accounted for in her starting pay model. Dr. Madden even notes that this information is important for accurately modeling starting pay: “If the effect of differences in starting jobs were due entirely to gender differences in **educational and experience specialization areas** prior to hire by Oracle, then this is an appropriate modification of the gender differentials in compensation.” Madden July report, p. 19; emphasis added.

⁷³ Hellerstein, Judith K. and David Neumark, (2006) “Using matched employer-employee data to study labor market discrimination,” *Handbook on the Economics of Discrimination*, edited by William M. Rogers III, Edward Elgar, pp. 34. Bertrand, Marianne, Claudia Goldin, and Lawrence F. Katz (2010). “Dynamics of the Gender Gap for Young Professionals in the Financial and Corporate Sectors.” *American Economic Journal: Applied Economics*, 2(3): 228-55. Goldin, Claudia. (2014) "A grand gender convergence: Its last chapter." *The American Economic Review* 104, no. 4: 1091-1119. Blau, Francine D., and Lawrence M. Kahn. (2017) "The gender wage gap: Extent, trends, and explanations." *Journal of Economic Literature* 55, no. 3: 789-865. Spivey, Christy (2005). “Time off at what price? The effects of career interruptions on earnings” *ILR Review*, 59(1): 119-140. Waldfogel, Jane (1998). “Understanding the "family gap" in pay for women with children.” *Journal of Economic Perspectives*, 12(1): 137-156. Angrist, Joshua D., Stacey H. Chen, and Jae Song. (2011) "Long-Term Consequences of Vietnam-Era Conscriptio: New Estimates Using Social Security Data." *American Economic Review*, 101 (3): 334-38.

employee – is averaged across everyone. The results she generates are unexpected and counter to the economic assumptions on which she relied. In the simple human capital model that Dr. Madden claims to be estimating, company tenure is typically posited to be positively *and strongly* related to pay as employees gain on-the-job skills and experiences, and the squared term is typically posited to be negative because the incremental effects of tenure grow progressively smaller with greater tenure, a pattern implied by the human capital theoretical models. However, Dr. Madden’s results show that holding age constant, longer company tenure is statistically significantly *negatively* related to pay in some of her gender and race analyses and squared company tenure is statistically significantly *positively* related to pay. The fact that in the case of Oracle we do not see the “textbook” version of the relationship between tenure and pay (*i.e.*, a positive relationship that flattens over time) suggests that her use of this simple approach with company tenure is not appropriate. For example, Dr. Madden could have used time in job to more accurately model the relationship of tenure and pay, and properly accounted for time worked at Oracle affiliates and acquisitions.⁷⁴

62. I discuss next the statistical evidence I have found that contradicts Dr. Madden’s assumption that all variables related to work at Oracle are “tainted” and should be omitted from analysis of pay.

Dr. Madden includes but then discounts a handful of variables related to work performed at Oracle, but these measures are inadequate to group together employees whose skills, duties, and responsibilities are in fact similar

63. In her tables summarizing the results of her pay analyses that sequentially add the “human capital” variables to a variable for gender or race (columns 1-5), Dr. Madden further present several additional columns where she introduces what she calls “endogenous” or

⁷⁴ Dr. Madden does use time in grade to analyze promotions in her Appendix B models. It is not clear why she excluded this from her pay models.

“Oracle” variables (columns 6-8). As I discussed above, she is not doing this to further narrow employee comparisons to those employees performing similar work from a labor economics perspective. Instead she does this to illustrate what she claims are the reasons for the adverse outcomes in pay seen when only pre-Oracle “human capital” factors are taken into account.⁷⁵ Thus, adding variables for “job descriptor” demonstrates to her Oracle’s discriminatory “placement” of employees into different “job descriptors,” adding exempt status represents Oracle’s discriminatory “assignment” of employees to jobs carrying exempt status, adding a flag for whether an employee is a manager or not indicates Oracle’s disparate “assignment” of employees to managerial roles, and adding career level demonstrates according to Dr. Madden the impact of Oracle’s discriminatory “placement” of employees into career levels. It is a quite remarkable position she has taken: that every bit of the differences in the distributions of jobs and levels within Oracle is *assumed to be* exclusively caused by discriminatory actions by managers throughout Oracle.

64. As noted, Dr. Madden takes this extreme view with little or no statistical evidence that these company-specific variables are “tainted.” Simply adding job characteristics like career level to a pay model and observing how the race or gender coefficient changes does not constitute a *test* of whether the decisions of any Oracle manager, or all of them, are biased. Dr. Madden interprets her results as evidence of bias by Oracle; I interpret her results as an initial step toward actually comparing employees with similar skills and experiences performing similar work.⁷⁶ In fact, Dr. Madden’s back-up production is more consistent with my interpretation than

⁷⁵ According to Dr. Madden, “[e]ndogenous characteristics cannot be used in any analyses of whether discrimination has occurred. Endogenous characteristics may be included in an analysis of discrimination, however, in order to assess the mechanisms by which discriminatory compensation occurs.” Madden report, p. 8.

⁷⁶ This is not an endorsement of columns 6 through 8 of her results; I reserve my discussion of the inadequacy of her controls for job content for a subsequent section to focus on the point I am

the one she advances. Her back-up shows adverse promotion outcomes for women in just two of the eight levels she studied (which I show below do not hold up under scrutiny), and one statistically significant *positive* outcome (which Dr. Madden chose not to present in her Appendix B). When I estimate her models for Asians and African-Americans (which she does not do), there are no significant adverse outcomes in promotion and the only statistically significant outcomes are *positive*.⁷⁷ Dr. Madden has provided no evidence that initial positions at hire and promotions are problematic, and thus she has no evidence that supports excluding details about the work performed by different employees from the pay models. None of Dr. Madden's analyses provide evidence of biased decision making by Oracle managers. My analysis demonstrates that Dr. Madden's assumptions that job and work detail are variables "tainted" by discrimination are unwarranted and contradicted by the available evidence.

There are gender and race differences in the levels people apply to at Oracle, and Oracle largely hires people into the level they applied for

65. In my initial report, including specifically in paragraphs 147-149, I studied the extensive information related to applications for jobs at Oracle arising from experienced, lateral applicants. I showed in that report (paragraph 149) that women tend to apply for lower IC-level jobs than men do, and that Asians also differ from whites in the levels to which they apply. I also showed in paragraphs 150 to 156 that there is no difference by gender or race in what jobs applicants were hired into relative to what they applied to, pursuant to the thousands of requisitions posted by the hundreds of organizations at Oracle over the period in question. Dr. Madden ignores the process by which job openings are posted both internally for current employees and externally to

making here, that adding these variables to her model is not in any way a test of whether Oracle managers make decisions that are biased.

⁷⁷ I used her computer program to examine this, modified to study race instead of gender.

the general public.⁷⁸ Instead she refers to Oracle “assigning” jobs and “placing” employees, and claims that any company-specific variables like job title and career level are “endogenous” and therefore tainted.

66. My earlier finding that applicants generally are hired into the jobs to which they apply is inconsistent with Dr. Madden’s assertion that one should not control for factors indicating the job performed at Oracle in the various regression models. Instead, employees determine the jobs to which they apply for consideration by Oracle, and in the vast majority of cases – irrespective of race or gender – Oracle hires employees for those jobs.

67. Because these variables are “untainted” by bias, they are appropriate for pay models even under Dr. Madden’s analytic approach.⁷⁹ They serve to better similarly situate hires by skill and responsibility. My initial report discussed in paragraphs 157 to 160 how there is a mix of positive and negative coefficients for race and gender, indicating that there is no pattern of adverse differences in starting pay across the job functions.⁸⁰ I also found no differences in terms of pay growth thereafter, once additional readily available additional factors are introduced (see paragraphs 161 to 163 of my initial report).

⁷⁸ See Oracle U.S. Employee Handbook, p. 45 (ORACLE_HQCA_0000000464.pdf). See also Kate Waggoner deposition, May 1, 2019, 144:6-8. Open job postings are also accessible on the public website (<https://oracle.taleo.net/careersection/2/jobsearch.ftl?lang=en>).

⁷⁹ Because these initial position variables (standard job title and organization) are more detailed indicators of the skill demanded and the scope of responsibilities, they obviate the need for highly detailed education and prior experience variables that Dr. Madden’s starting pay and incumbent pay models require.

⁸⁰ Table 4 of Dr. Madden’s report also shows that after controlling for “job descriptor” and career level, there are no differences in starting pay between whites and Asians (as well as between whites and African-Americans, which was true even without job area or career level in the model).

Dr. Madden assumes that all Oracle actions are “tainted” by discrimination but her back up shows her own analysis uncovered no systematic promotion issues

68. As noted above, Dr. Madden has assumed that Oracle has completely and exclusively determined all of what she deems “Oracle factors” in a discriminatory manner and has not based those assignments on merit or skill. She has no solid empirical evidence this is true. For example, she presents no robust analysis of promotion at Oracle, which according to her assumption, would show statistically significant and substantial disparities in promotions across career levels for women, Asians, and African-Americans. The promotion analysis she does conduct is relegated to an appendix. However, Dr. Madden limits the results she shows in her Appendix B to those dealing with the promotion of women from IC3 and IC4 jobs.⁸¹ Her back-up production material includes the computer program she used to generate this table, which I have used to generate the table below.⁸² She does not show the full results from her backup in the text of her report.⁸³ She chose only to present the results for IC3 and IC4. The rest of the table shows that there are no other levels with a statistically significant adverse promotion outcome for women and one level (M5) with a statistically significant *positive* outcome for women. Dr. Madden elected not to present these other findings, which undercut any claim that career level advancement is systematically biased against women at Oracle.

⁸¹ Dr. Madden only studied employees who worked all year. By excluding part-year workers, including those who were on a leave of absence, she excluded 5.7% (51 out of 895) of male promotions and 14.5% (51 out of 353) of female promotions in her IC3 and IC4 promotion regressions.

⁸² Dr. Madden’s defines promotion as year-end career level greater than the prior year-end career level. Since “M” comes after “IC” alphabetically, any movement from the IC levels to any M level is flagged as a promotion.

⁸³ She also does not elucidate why time in grade is relevant for promotions but not pay, where she excludes that measure of tenure.

Madden Appendix B: Regression Analysis			
Gender Differences in Probability of Moving from Global Career Levels Controlling for Race, Ethnicity, Age, Education, Time at Oracle, Time in Grade, and Year, 2013-2018			
From Career Level	N	Female Coefficient	Standard Deviation
IC1	113	-0.13	-0.36
IC2	1,380	0.02	0.24
IC3	3,433	-0.19	-3.08
IC4	6,823	-0.16	-2.87
IC5	4,698	-0.11	-1.16
IC6	337	--	--
M2	660	-0.09	-0.67
M3	2,261	-0.03	-0.40
M4	2,307	-0.07	-0.67
M5	1,746	0.29	2.06
M6	491	-0.28	-0.61

69. To study promotions from the IC3 and IC4 career levels in more detail, I also estimated her model by year. The next table shows that there is only a single year in one level that is statistically significantly adverse to women.⁸⁴ Based on evidence that shows that gender differences are not statistically significantly different except in one year and one level, Dr. Madden nonetheless asserts that career level should not be included in any of the pay regression models for both race and gender. This is simply unjustified from both an econometric and a labor economics perspective. In fact, Dr. Madden's results for female promotions would not lead a labor economist to conclude Oracle is discriminating at all against women in promotions; the evidence simply does not support such an inference.

⁸⁴ There are over 150 women in most years in IC3 and over 300 in every year in IC4, which are certainly large enough groups to analyze with precision. Even setting aside the issue of precision, however, the coefficients themselves are small.

Madden Appendix B: Regression Analysis**Gender Differences in Probability of Moving from Global Career Levels Controlling for Race, Ethnicity, Age, Education, Time at Oracle, Time in Grade By Year for IC3 and IC4**

From Career Level	Year	N	Female Coefficient	Standard Deviation
IC3	2013	628	-0.19	-1.30
IC3	2014	587	-0.13	-0.93
IC3	2015	555	-0.24	-1.63
IC3	2016	526	-0.21	-1.26
IC3	2017	474	-0.08	-0.51
IC3	2018	402	-0.24	-1.48
IC4	2013	1,133	-0.16	-1.37
IC4	2014	1,027	-0.10	-0.79
IC4	2015	1,019	-0.48	-3.46
IC4	2016	1,070	-0.18	-1.33
IC4	2017	1,014	-0.21	-1.49
IC4	2018	1,023	-0.01	-0.10

70. For Asians in PRODEV, there are no statistically significant adverse outcomes in promotion on Dr. Madden’s model and the two statistically significant outcomes are *positive*, as shown in the table below.

Madden Appendix B: Regression Analysis			
Race Differences in Probability of Moving from Global Career Levels Controlling for Race, Ethnicity, Age, Education, Time at Oracle, Time in Grade and Year, 2013-2018 - Asian vs. White in PRODEV -			
From Career Level	N	Asian Coefficient	Standard Deviation
IC1	81	-0.15	-0.28
IC2	1,241	-0.07	-0.31
IC3	2,689	0.02	0.23
IC4	5,291	0.00	-0.06
IC5	4,064	0.07	0.86
IC6	232	0.02	0.04
M2	534	0.51	2.06
M3	1,926	-0.05	-0.37
M4	1,941	-0.08	-0.74
M5	1,525	-0.09	-0.71
M6	434	0.47	1.98

71. For African-Americans, there are no statistically significant adverse outcomes in promotion in Dr. Madden’s model; the only statistically significant outcome is *positive*, as shown in the table below.

Madden Appendix B: Regression Analysis			
Race Differences in Probability of Moving from Global Career Levels Controlling for Race, Ethnicity, Age, Education, Time at Oracle, Time in Grade and Year, 2013-2018			
- African-American vs. White in PRODEV -			
From Career Level	N	African-American Coefficient	Standard Deviation
IC1	25	40.78	--
IC2	102	1.21	2.27
IC3	433	0.37	1.09
IC4	1,178	0.19	0.70
IC5	1,369	0.12	0.26
IC6	116	--	--
M2	39	--	--
M3	306	0.83	1.79
M4	501	-0.04	-0.07
M5	531	--	--
M6	76	--	--

Note: Regression coefficients are not reported when there are fewer than 5 African-Americans.

72. Taken as a whole, the results from running Dr. Madden’s promotion models on all protected groups are inconsistent with an inference that career level or other work content variables are tainted by Oracle’s managers. There is no basis to exclude such variables from the pay model.

MY ANALYSIS SHOWS THAT ONCE THE CORRECT DEPENDENT VARIABLE IS USED AND MORE APPROPRIATE CONTROL VARIABLES ARE APPLIED, THERE IS NO PATTERN OF STATISTICALLY SIGNIFICANT ADVERSE PAY OUTCOMES FOR WOMEN, ASIANS, OR AFRICAN-AMERICANS

73. My initial report showed that there is no pattern of adverse pay outcomes by gender or race at Oracle once corrections were made to the OFCCP model. These results were based on a model of total compensation by job function controlling for total Oracle tenure (based on continuous service date that includes time worked at international affiliates or acquired firms), cumulative time spent on leave of absence and whether there was a leave of absence in the current year,⁸⁵ time in standard job title,⁸⁶ organization, whether the employee ever has a patent bonus, and whether they arrived at Oracle as an experienced hire or through an acquisition. Job title and organization are controls applied to better compare the pay of employees doing similar work. Even though my model otherwise followed the structure of the OFCCP's SAC model (which as I explain in my initial report in paragraphs 10 to 17 is problematic for several reasons), my analyses showed that there is no evidence of systematic adverse pay outcomes for women, Asians, and African-Americans at Oracle.⁸⁷

⁸⁵ Dr. Madden does something similar in her models by deducting leaves of absence from her calculations of time worked at Oracle, and dropping employees from her analysis if they only worked part of the year.

⁸⁶ As I noted earlier, Dr. Madden does not explain why time in current position is included in her promotion models but not her pay models.

⁸⁷ Dr. Madden's base pay models for women and Asians are irrelevant, first because the OFCCP claims are about total compensation for women and Asians, and second because non-base salary at Oracle can be a large part of annual compensation. This is discussed in any number of Oracle manager training manuals (see for example, US Manager's Orientation presentation dated December 6, 2016 (ORACLE_HQCA_0000042091_MASTER US Manager Orientation 1201 (Native).PPTX) and is confirmed in the data itself (as explained in my initial report in paragraph 38 and charts on pages 90-91). For African-Americans, the OFCCP switched to claims about base pay in the SAC, and Dr. Madden's results including career levels show that the pay differences between whites and African-Americans are not statistically significant in four of the six years (and not the years in the audit window for OFCCP, 2013 and 2014).

74. In what follows, I provide further evidence that the variables I introduced in my initial report – and that I continue to use here – are appropriate, notwithstanding any unsupported allegation that they must be “tainted” by Oracle.

Oracle hires applicants into the organization they applied to

75. As noted in my previous report and repeated herein, there are no disparities in the rates at which women, Asians, and African-Americans get the jobs they apply to relative to men and whites. Thus, there is no basis for excluding standard job title and other information regarding job duties generally from a pay regression. There is simply no evidence to support the notion that Oracle “taints” the variables by arbitrarily “assigning” applicants to positions to which they have not applied. There are other variables within the Oracle data that also meaningfully relate to the nature of the work being performed by employees. For example, there are hundreds of different organizations at Oracle within which employees work at HQCA in the three job functions framed by the SAC, on hundreds of different products.⁸⁸ The requisitions make clear that even holding job title constant, different jobs draw on different sets of skills and experiences.⁸⁹ I used the variable “organization” in my analyses to capture these differences. For example, some organizations work on products and services designed to facilitate customers’ data analytic efforts. See for example, one requisition describes a Software Developer 4 (IC4) open position in Fusion Release Engineering that requires database and SQL programming skills:

“Technical Skills 1. Excellent problem solving and debugging skills 2. Strong Unix operating system skills. Previous technical support, system support or system admin experience is a plus 3. Experience with Oracle RDBMS, SQL and PL/SQL, Perl, Unix/Linux (including shell scripting) 4. Experience Apache web-servers, Weblogic server including app configuration and administration 5. Familiarity with Cloud

⁸⁸ Data shows that employees worked in 1,039 organizations. (July 2019 Report table C6).

⁸⁹ Attachment D to this report contains more sample requisitions. See also my initial report, paragraphs 47 through 61.

deployments and SaaS models 6. Programming experience in Java/ J2EE technology stack.”⁹⁰

76. In contrast, a requisition for the same standard job title – Software Developer 4 – but in the Active Data Guard organization calls for “Experience and/or interest in replication technologies and design trade-offs among consistency, availability and performance in distributed systems, C/C++ is desired.”⁹¹ Not only do the skills called for differ but their value to Oracle may differ as well.⁹²

77. As noted here and in my previous report, standard job title and career level are broad categories that group employees by broad job descriptors (*e.g.*, software development or applications developer) and skill at dealing with organizational and technical complexity (career level), but these variables do not take into account what kind of products/services are worked on, the specific skills needed to develop or support those products/services, and what profit levels are associated with them, nor do they provide sufficient detail about employee job duties and responsibilities. This is one reason why the earnings ranges are so enormous within a given standard job title. If everyone sharing a standard job title were doing similar work, there would be no economically rational reason to pay one employee five times more than the person next to

⁹⁰ iRec Vacancy IRC2097743 in ORACLE_HQCA_0000070747_HQCA_IREC_DATA.xlsx

⁹¹ iRec Vacancy IRC2161526 in ORACLE_HQCA_0000070747_HQCA_IREC_DATA.xlsx

⁹² “Because not all products and services have the same value to Oracle, the value of the skills, duties, and responsibilities necessary to develop, enhance, or service Oracle’s wide array of products and services also differs and changes over time. For example, and there are plenty more, twenty years ago, employees skilled in Siebel technologies were highly sought after in the marketplace. Today, by contrast, there is high demand for (and comparatively limited supply of) employees with experience specifically in cloud-based technologies and artificial intelligence. As technology continually changes and develops, the competition and market demand for employees skilled in the latest technologies also changes, meaning the value to Oracle of various skills, duties and knowledge also fluctuates over time.” Miranda Declaration, paragraph 7. ORACLE_HQCA_0000607281.pdf

them. This outcome is a signal that the products and services worked on matter for understanding pay at Oracle.

78. I used organization as a variable in my previous report, which, while not perfect in that it is in part a financial cost center variable, does generally bear a closer relationship to the products and services being worked on than does standard job title alone. In this way, I group employees with those in the same organizations whose specific skills are likely to be more similar than the skills of employees in different organizations, whether it is software applications tailored to utilities, automotive logistics, or other industries, storage solutions that integrate hardware and software, cloud computing, or Big Data analysis. This refinement to better account for differences across organizations resembles the factors Dr. Madden and her University of Pennsylvania colleagues used to structure their own gender pay equity study (discussed above) – though in that study, Dr. Madden and colleagues actually estimated separate models by rank and department/school, in addition to controlling within those models for whether different academic departments were “high-pay, low-pay, or medium-pay.”⁹³ My previous report showed applicants largely received the career level of the position they applied for. I turn next to considering the distribution of successful applicants among organizations relative to the organization to which they applied: i.e., did women, Asians, and African-Americans start working in the organization they applied to at the same rates as white men?

79. Almost three quarters of hires at Oracle headquarters into the PRODEV, INFTECH, and SUPPORT job functions in the relevant time period were of experienced employees – not new college hires – and those experienced hires responded to requisitions that were publicly posted.

⁹³ The Gender Equity Report, Executive Summary, p. V, and p. V, footnote 1. ALMANAC SUPPLEMENT December 4, 2001 (<https://almanac.upenn.edu/archive/v48pdf/011204/GenderEquity.pdf>).

There were 1,497 job requisitions in the data produced in the case that listed “organization.” In order to study whether changes were made to “assign” different employees outside of the posted organization at rates that differed by race or gender, I conducted an analysis to compare the organization listed in these requisitions to the organization associated with the selected applicant’s initial job at Oracle. The data show that 82.1% of women hired work in the same organization found in the requisition, versus 81.0% of men. The difference is tiny and not statistically significant. The same study for Asians results in 1,147 requisitions into which a white or Asian employee was hired; among these, 83.8% of Asians and 83.5% of white employees began work in the same organization as they applied to. Again, the difference is not statistically significant. There are 241 requisitions in the period against which either an African-American or white applicant was hired. There is very little difference: 80.0% of African-Americans and 83.5% of whites began work in the organization to which they applied. As with career level, here is simply no evidence that Oracle is “steering” employees with respect to organization. Thus, Dr. Madden had no basis to disregard the organization variable in her analyses. In my initial report I relied upon this variable in my pay analyses; and I do so again here.

Patent bonus award opportunities are also not “tainted”

80. Technology companies like Oracle have an incentive to patent as much of their work as possible in order to reap the benefits of their innovation. Patent-level work is potentially of enormous value to the company, and will generally correlate with high levels of skill and innovative ability not otherwise captured by measures like age or years since hire at Oracle.⁹⁴

⁹⁴ Patents also serve as an objective measure of individual or group productivity, which can be especially useful in white collar positions where productivity is not otherwise directly observable. Ehrenberg and Smith (2015), *Modern Labor Economics* pp. 373-376.

81. There is no evidence to suggest that Oracle is steering women away from patent opportunities. Companies like Oracle have no economic incentive to suppress patent activity by anyone, given the enormous potential upside for innovative breakthroughs. As I noted in my previous report, Oracle maintains a central database of patents that all employees can search to understand the state of the art and who is working on various technologies. The patent application bonus is a fixed amount that has varied over the years but is capped at \$4,500,⁹⁵ which is split by the team once the application passes through the internal review process. (The bonus is based on the application, not on whether the application successfully ends with an actual patent.) The data shows that 17.8% of HQCA employees working in PRODEV, INFTECH, and SUPPORT who ever received a patent bonus award between 2003 and 2018 are women.

82. To further analyze and interpret this finding, I downloaded the public national database of patents.⁹⁶ This dataset lists the company (or assignee) name, inventor name, patent class, as well as the application and issue date for a patent issued between 2003 and 2018. The dataset was then restricted to only the patents which listed Oracle as the company or assignee. This resulted in a dataset with 23,364 records, where each record includes a single inventor and patent. A total of 7,777 patents were identified as being assigned to Oracle indicating that, on average, there were approximately 3 inventors listed per patent assigned to Oracle. Although the gender of the inventor was not provided, a reasonable estimate could generally be identified using a prediction model for gender based on publicly available Social Security Administration data on names and gender. After the gender prediction model was applied to this dataset and those employees for

⁹⁵ Oracle Patent Refresher, July 8, 2014. (ORACLE_HQCA_0000414372_patent Primer 07-07-014.pptx.)

⁹⁶ <https://patents.reedtech.com/pgrbbib.php>. The full database includes patents from 1976 to 2018 and has approximately 16.5 million records of patents for over 1,000 different classifications, where each record is a unique pairing of a single inventor to a specific patent.

whom a gender could be identified were examined, the analysis indicates that 11.8% of Oracle patent holders are women.⁹⁷

83. Patents assigned to Oracle in that public national database fall into a subset of classification codes, depending on the place and time at which they were originally issued, and type of invention/method covered by the patent. When I restrict the full database to include only patents listed under one of these relevant classification codes (to track areas in which Oracle patents), and exclude any patents assigned to Oracle, the resulting data set includes 4,503,064 records for 1,623,837 patents. Of these remaining records, 12.6% of the patent holders are women, which is extremely close to the figure for women who are patent holders at Oracle.⁹⁸ In short, there is no evidence that Oracle is steering women away from patent activity or patenting opportunities relative to the rest of the industry.

84. The data produced by Oracle also show that of the employees who received a patent bonus at Oracle, 67.1% are Asian versus 30.0% who are white.⁹⁹ Although the public data from the U.S. patent office did not include inventor ethnicity, an ethnicity prediction model for ethnicity¹⁰⁰ was applied to inventor last names, in a comparable fashion to the prediction model used for gender. For the 23,364 records listing Oracle as the patent assignee, 42.6% of the inventors were Asian versus 45.2% who were white. A similar pattern can be seen in the

⁹⁷ About 80% of records could be matched to the using the Social Security Administration (SSA) prediction model and approximately 63% could be matched using the census prediction model. Lincoln Mullen (2018). Gender: Predict Gender from Names Using Historical Data. R package version 0.5.2.

⁹⁸ If the census predictor in the R package (<https://github.com/ropensci/gender>) is used instead of the SSA predictor to determine gender, 13.2% of Oracle's patents are held by women versus 12.4% held by women at non-Oracle companies for patents listed under one of the classification codes covering patents assigned to Oracle.

⁹⁹ There are too few African-Americans to study patent activity.

¹⁰⁰ The approach is explained in: Kabir Khanna and Kosuke Imai (2019). wru: Who are You? Bayesian Prediction of Racial Category Using Surname and Geolocation. R package version 0.1-9. <https://CRAN.R-project.org/package=wru>

4,503,064 patent records which fall under one of the classification codes for which Oracle has at least one patent. In these records 40.3% of patent holders are Asian versus 46.7% who are white. As with women, the percent of patent bonuses awarded by Oracle to Asians exceeds the percent of actual Oracle patents they hold and patent holders in these categories outside of Oracle who are Asian. These results are inconsistent with any assumption or claim that Oracle “steers” women or Asians away from opportunities that generate patent bonuses or result in patentable work. The failure to control for exceptional innovation and expertise (proxied by generating patent-able work) bias the gender and race coefficients in Dr. Madden’s results (which do not flag patent activity), because the patent bonus data indicate that men and women at Oracle file for patents at different rates, as do Asian and white employees.¹⁰¹

Dr. Madden’s measure of total compensation is incorrect

85. Total compensation is what matters to analysis of annual compensation decisions, not Medicare wages, which as I explained in my previous report in paragraphs 105 to 107, is not an accurate measure. But instead of identifying and analyzing the specific compensation awarded to each employee for work performed *in a given year* by summing up base pay, annual bonus, and shares or options awarded *in that year*, Dr. Madden uses pay that does not align stock awards to the year in which they were actually earned, and is affected by employee choices about how much to set aside in pre-tax deductions like medical or dependent care savings plans or whether to exercise stock options earned in previous years.

86. For example, as I noted in my last report, the employee with Person ID 891717010 worked full time, all year as a Software Developer 2 (IC2) in 2013. His base pay in Dr.

¹⁰¹ See paragraphs 118 and 119 in my initial report.

Madden's data was [REDACTED], his Regular Salary was [REDACTED]¹⁰² and his Medicare wages were [REDACTED]. He earned no bonuses and was awarded no stocks. Correctly calculated, this employee's total compensation in 2013 was [REDACTED]. Likewise, the employee with Person ID 10107 was a fulltime Senior Vice President for the entirety of 2014. His Medicare wages in Dr. Madden's dataset were [REDACTED] and base pay was [REDACTED]. Her data also shows his 2014 Regular Salary was [REDACTED] and that he [REDACTED].¹⁰³ He was also awarded over [REDACTED] in stock. His Medicare wages were likely so much higher than the other measures indicate because he exercised stock options that he held from prior years; the data shows he exercised [REDACTED] of stock options.¹⁰⁴ That he decided to exercise those options in 2014 does not mean they represent his compensation for the work he did *in that same year*. His Medicare EE Taxable pay includes the delayed compensation he earned in other years but happened to cash in this particular year. Counting his base salary, bonuses and stocks awarded in 2014, this employee's total compensation was [REDACTED] not almost [REDACTED]. To correctly measure total compensation associated with work in a given year, Dr. Madden should have used base pay plus bonuses earned and stock awarded within that year. She did not do so, rendering her total compensation comparisons inaccurate.

There is no systematic pattern of adverse outcomes in incumbent pay when the regression models use the correct measure of pay and more appropriate control variables are applied

87. The attached tables 1 through 5 show my results when total compensation is measured correctly, Dr. Madden's models are disaggregated by job function to track the allegations of the SAC, and additional variables better account for differences in employee skills and the type of

¹⁰² This differs slightly from the amount I listed in my previous report because Dr. Madden uses Regular Salary from AllEarnings data file rather than Regular Earnings in the same data file.

¹⁰³ This differs slightly from the amount I listed in my previous report for the same reason.

¹⁰⁴ ORACLE_HQCA_0000070722_AllEarnings2.xlsx and ORACLE_HQCA_0000581403_Stock_Data_Product_Statement_Combined.xlsx

work they perform at Oracle are introduced. I have presented the results in a similar fashion to Dr. Madden. The first column shows the gender coefficient for total compensation controlling only for gender. The second column controls for race and ethnicity (as Dr. Madden includes this control in all her models).

88. Prior experience is measured as age minus total years at Oracle minus 22, as shown in column 3. Like Dr. Madden's age measure, this does not have much effect on the gender coefficient, does not account for the type of relevant experience, and does not account for years out of the labor force.¹⁰⁵

89. Column 4 shows the results when education (using the variable adopted as constructed by Dr. Madden) is included in the model. Again, this variable is missing for many employees and in a non-random fashion, as described above.

90. Column 5 adds tenure variables: time in company (Oracle America, Inc.), part-time or full-time work, total Oracle tenure (including time at acquired companies and international affiliates), cumulative time spent on leave of absence and whether there was a leave of absence in current year¹⁰⁶, time in standard job title, and whether the employee arrived at Oracle as an experienced hire or through an acquisition (to account for incomplete leave of absence information, as described in my initial report in paragraph 113).

¹⁰⁵ Age minus 18 or age minus 22 are commonly used years of experience measures that count only year after high school or college graduation. (The OFCCP analyses used age minus 18.) I do not include a squared term because unlike many human capital analyses, we are analyzing company tenure with a more complete array of tenure variables that account for the eventual leveling off of the gains to experience but can be directly observed by Oracle managers and could be used by them in their decision making.

¹⁰⁶ Dr. Madden does something similar in her models by deducting leaves of absence from her calculations of time worked at Oracle, and dropping employees from her analysis if they only worked part of the year.

91. Column 6 adds the job characteristic variables that are intended to better group employees with respect to their skills, duties, and responsibilities: standard job title, organization, and whether the employee has earned a patent bonus.

92. I have argued in this report as well as in my initial report that a number of the empirical outcomes, both statistical as well as descriptive, suggest that aggregation of all employees into one regression model may be inappropriate. I have also suggested that the use of standard job title does not capture the wide range of types of work that is covered by a single title. Putting these and other similar issues aside, and simply running an aggregated regression model that fixes flaws in Dr. Madden's model, and adds several variables she did not consider, I reach very different conclusions than she did. I find that gender and race pay differences shrink dramatically when compared to Dr. Madden's column 5 results, and even to Dr. Madden's column 8 results. Furthermore, the majority of the findings are not statistically significant. In fact, I find a number of positive relationships between total compensation and gender or race, respectively, undermining the claim that there is a consistent pattern of results adverse to women or minorities. These results do not support an inference of pay discrimination; instead, they are inconsistent with a hypothesis that Oracle systematically treats women, Asians, or African-Americans worse than white male employees with respect to pay in the PRODEV, INFTECH and SUPPORT job functions at its headquarters location.

Dr. Madden's analysis of starting pay is also flawed

93. Like the OFCCP, Dr. Madden claims that reliance on prior pay causes disparities in starting pay.¹⁰⁷ However, a regression coefficient is a measure of correlation, in that it indicates a relationship between two variables but does not necessarily show causality. One can regress

¹⁰⁷ Madden report, pp. 49-50.

height on shoe size, but the positive regression coefficient should not be interpreted to mean that as feet grow longer in length they cause the person to be taller. Showing that prior pay and starting pay are correlated is not enough; the claim is a *causal* one, that reliance on prior pay causes starting pay to be lower for women, Asians, and African-Americans.

94. As I noted in paragraph 144 of my initial report, the difficulty with studying prior pay and starting pay is that it is difficult to disentangle how much of the correlation is due to a pay practice of Oracle specifically (as the OFCCP charges) or instead how much is due to the fact that pay depends on a person's skills, experience, and how in demand those attributes are by competing companies. Starting pay and prior pay are strongly correlated throughout the economy. I reviewed National Longitudinal Survey (NLS) data on prior pay and starting pay for people who changed jobs.¹⁰⁸ The correlation between starting pay and prior pay is 0.75 across all individuals in the NLS, meaning that it is a factor economy-wide and not just at Oracle. In other words, Dr. Madden's results are also consistent with Oracle setting pay based on the specific relevant skills, abilities, and job experience an applicant brings to the position. Dr. Madden does not provide any empirical support for an essentially assumed explanation.

95. Dr. Madden's analysis of starting pay is also empirically flawed. Her analysis includes persons hired outside the three job functions at issue for women and for all three protected groups includes persons hired prior to the class period (i.e., before 2013) and non-headquarters locations. She also drops rehires and aggregates across job functions for women as well as across hire type (e.g., college hire, acquisition, or experienced hire). When we correct for these issues and add job title and organization for experienced hires in attached tables 6-14, Dr.

¹⁰⁸ The National Longitudinal Surveys (NLS) started in 1997 with 14-18 year olds and surveys them every year about a wide range of topics. My analysis examines job changes and the difference between the ending pay of the prior job and the starting pay of the new job. After limiting the data to exclude people changing occupation, changing part-time/full-time status, or who have extreme values of the reported hourly rates, I analyze data for 3,488 respondents.

Madden's results are the same as those I presented in my previous report, meaning that there is no pattern of starting pay decisions adverse to protected groups. The one exception has to do with female experienced hires in the PRODEV job function. This appears to have something to do with the missing education variable. When the analysis is restricted only to hires whose educational status is known, the result disappears. The sensitivity of this result leads me to conclude that it is an artifact of non-random missing information about the educational levels of hires rather than evidence of gender differences in starting pay.

No damages are owed because there is no pattern of pay disparity

96. Dr. Madden's primary analyses are in her Tables 1 to 3. Dr. Madden uses the statistical results of her flawed pay models for women, Asians, and African-Americans to formulaically arrive at aggregate damages figures owed to the protected groups she studies. Once steps are taken to correct the problems I identified above with Dr. Madden's analysis, there is no basis for estimating damages.

97. In Tables 8-10 of her July 2019 report, Dr. Madden calculates presumed damages under three scenarios: (i) controlling for age, education, and Oracle tenures and no Oracle variables, (ii) adding Oracle job descriptor, and (iii) then Global Career Level. These scenarios correspond to columns 5, 6, and 8 of Dr. Madden's tables 1-3. Her discussion regarding tainted variables makes clear that her opinion is that no Oracle variables should be included in pay analyses other than Oracle tenure. (This is represented by column 5 in her tables.) She fails to explain, then, why she calculates damages based on her column 6 and 8 results.

98. In her first scenario (using column 5), Dr. Madden applies the most extreme version of her human capital theory in which no job- or work-related variables like job title or organization are permissible to include; as a result of this flawed approach, she generates an enormous

damages estimate of almost \$800 million for all protected groups combined. As I have discussed at length above, leaving out all of the job- and work-related variables is scientifically unsupported, because she has no basis for her assumption that any and all company variables are hopelessly “tainted” by discrimination. Indeed, the empirical evidence contradicts rather than supports this assumption. In addition, the variables she does use, including the total compensation measure she uses (Medicare wages) are all flawed in the ways I have discussed.

99. Adding only the generic “job descriptor” variable to Dr. Madden’s pay model does little to change the pay differences found in her column 5 models, and thus the “column 6” damages model generates a damages estimate of \$710 million.

100. The final “column 8” damages estimate is based on a model that adds global career level. This estimate generates almost \$300 million in damages. However, this model continues to be scientifically unsound, relies upon badly mis-measured variables, and compares employees who are not similar in terms of either their relevant skills and experience or the work they actually perform at Oracle. My refinements to Dr. Madden’s analysis shows that when employees are more similarly situated, there are no pay disparities for protected groups even using function-wide aggregated models, and thus no damages are owed.

CONCLUSION

101. It is my opinion that the analyses presented by Dr. Madden in support of OFCCP's allegations regarding pay at Oracle rely on unsupported assumptions instead of empirical research, utilize mis-specified models, rely upon incorrectly measured variables, suffer from omitted variable bias, and have a number of other methodological flaws. The variables on which her model relies are not sufficient to generate economically meaningful comparisons such that any gender- or race-based pay differences can be meaningfully assessed. Her *assumption* that any variables that are potentially subject to the influence of Oracle should be left out of the analysis is unsupported. Dr. Madden's analogy of statistical analysis in employment cases to statistical research in clinical trial settings, which she uses to support her assumption that variables omitted from analysis would not change her results if they were included is incorrect. Clinical data is generated by specific experimental design, while employment data is generated naturally and given to the researcher as is. As a result, it is my opinion that Dr. Madden's analyses do not support inferences of pay discrimination at Oracle and that they do not provide any basis for Dr. Madden's damages calculations. Assuming for argument's sake that Dr. Madden's level of aggregation of the data is appropriate, and using the standard job title and other variables as provided in the Oracle data, my analyses of pay do not support an inference of a pattern of pay discrimination against women, Asians, and African Americans. In addition, my analyses indicate that there is no evidence of bias in the process by which job applicants are hired into the positions they apply for in terms of both career level and organization, that there is no evidence of bias in promotions, and that there is no evidence of bias in starting pay, or pay growth at Oracle. Given these statistical conclusions, it is my opinion that there is no basis for OFCCP's claim that economic damages are owed by Oracle in this case.

Executed August 16, 2019 in Los Angeles, California.



Ali Saad, Ph.D.

Table 1**2013 through 2018 Gender Differences in Total Compensation at Oracle Headquarters by Year, with Various Characteristics Controlled****- Full-Year Incumbents in the INFTECH Job Function -**

Controls for ...														
			Gender Only (1)		Adds Race/Ethnicity (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Refined Tenure Variables (5)		Adds Work- Related Variables (6)	
Year	Number of Workers	% Women	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value
2013	440	28.2%	-0.061	-1.53	-0.071	-1.78	-0.071	-1.78	-0.072	-1.78	-0.029	-0.69	-0.034	-1.73
2014	447	27.7%	-0.081	-1.76	-0.086	-1.88	-0.086	-1.88	-0.080	-1.74	-0.014	-0.27	-0.033	-1.39
2015	556	24.5%	-0.123	-2.86	-0.122	-2.89	-0.123	-2.89	-0.123	-2.89	-0.046	-0.99	-0.035	-1.55
2016	604	23.7%	-0.131	-3.16	-0.132	-3.22	-0.132	-3.24	-0.135	-3.29	-0.070	-1.56	-0.009	-0.42
2017	544	24.3%	-0.138	-2.95	-0.140	-3.04	-0.140	-3.04	-0.142	-3.05	-0.051	-1.03	-0.037	-1.52
2018	521	24.4%	-0.146	-3.09	-0.148	-3.16	-0.148	-3.16	-0.149	-3.17	-0.073	-1.45	-0.063	-2.48

Note on controls:

(3) Refined age variable is estimated by age minus 22 minus total Oracle years.

(5) Refined tenure variables are: time in company (Oracle America), part-time/full-time, total oracle tenure (including time at acquisition and non-USA affiliate), cumulative time spent on leave of absence, whether leave of absence was in current year, time in job, and whether the employee arrived at oracle as an experienced hire or through an acquisition.

(6) Work-related variables are: job title, organization, and whether the employee ever has a patent bonus.

Table 2**2013 through 2018 Gender Differences in Total Compensation at Oracle Headquarters by Year, with Various Characteristics Controlled****- Full-Year Incumbents in the PRODEV Job Function -**

Controls for ...														
			Gender Only (1)		Adds Race/Ethnicity (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Refined Tenure Variables (5)		Adds Work- Related Variables (6)	
Year	Number of Workers	% Women	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value
2013	3,901	28.8%	-0.239	-15.38	-0.226	-14.64	-0.226	-14.63	-0.226	-14.75	-0.184	-12.19	-0.017	-2.05
2014	3,872	28.7%	-0.252	-14.24	-0.239	-13.58	-0.239	-13.62	-0.241	-13.75	-0.199	-11.65	-0.013	-1.33
2015	3,814	28.3%	-0.242	-13.83	-0.228	-13.13	-0.230	-13.21	-0.233	-13.44	-0.191	-11.01	-0.015	-1.48
2016	3,809	27.7%	-0.232	-13.39	-0.221	-12.84	-0.222	-12.88	-0.227	-13.20	-0.194	-11.44	-0.015	-1.57
2017	3,816	27.6%	-0.245	-13.28	-0.236	-12.82	-0.237	-12.86	-0.242	-13.23	-0.208	-11.48	-0.009	-0.83
2018	3,585	27.9%	-0.249	-12.71	-0.242	-12.45	-0.242	-12.46	-0.246	-12.70	-0.214	-11.14	-0.009	-0.86

Note on controls:

(3) Refined age variable is estimated by age minus 22 minus total Oracle years.

(5) Refined tenure variables are: time in company (Oracle America), part-time/full-time, total oracle tenure (including time at acquisition and non-USA affiliate), cumulative time spent on leave of absence, whether leave of absence was in current year, time in job, and whether the employee arrived at oracle as an experienced hire or through an acquisition.

(6) Work-related variables are: job title, organization, and whether the employee ever has a patent bonus.

Table 3**2013 through 2018 Gender Differences in Total Compensation at Oracle Headquarters by Year, with Various Characteristics Controlled****- Full-Year Incumbents in the SUPPORT Job Function -**

Controls for ...														
			Gender Only (1)		Adds Race/Ethnicity (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Refined Tenure Variables (5)		Adds Work-Related Variables (6)	
Year	Number of Workers	% Women	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value
2013	233	18.0%	-0.205	-3.00	-0.215	-3.12	-0.225	-3.23	-0.236	-3.40	-0.199	-2.73	-0.051	-2.01
2014	220	19.1%	-0.186	-2.36	-0.198	-2.46	-0.214	-2.65	-0.220	-2.73	-0.137	-1.64	-0.056	-2.29
2015	103	30.1%	-0.187	-1.41	-0.184	-1.33	-0.210	-1.50	-0.214	-1.48	-0.111	-0.68	0.016	0.31
2016	95	24.2%	-0.175	-1.11	-0.187	-1.16	-0.211	-1.26	-0.203	-1.19	-0.125	-0.58	0.178	1.55
2017	85	23.5%	-0.154	-0.83	-0.162	-0.85	-0.185	-0.92	-0.165	-0.81	-0.080	-0.34	-0.032	-0.31
2018	83	25.3%	-0.169	-0.96	-0.178	-0.99	-0.235	-1.22	-0.215	-1.10	-0.067	-0.29	0.132	1.14

Note on controls:

(3) Refined age variable is estimated by age minus 22 minus total Oracle years.

(5) Refined tenure variables are: time in company (Oracle America), part-time/full-time, total oracle tenure (including time at acquisition and non-USA affiliate), cumulative time spent on leave of absence, whether leave of absence was in current year, time in job, and whether the employee arrived at oracle as an experienced hire or through an acquisition.

(6) Work-related variables are: job title, organization, and whether the employee ever has a patent bonus.

Table 4

2013 through 2018 Asian Differences in Total Compensation at Oracle Headquarters by Year, with Various Characteristics Controlled

- Full-Year Incumbents in the PRODEV Job Function -

Controls for ...														
			Asian Only (1)		Adds Gender (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Refined Tenure Variables (5)		Adds Work- Related Variables (6)	
Year	Number of Workers	% Asian	Asian Coefficient	T- Value	Asian Coefficient	T- Value	Asian Coefficient	T- Value	Asian Coefficient	T- Value	Asian Coefficient	T- Value	Asian Coefficient	T- Value
2013	3,783	72.6%	-0.177	-11.04	-0.157	-10.03	-0.156	-9.54	-0.150	-9.10	-0.102	-6.58	-0.010	-1.17
2014	3,756	73.6%	-0.186	-10.04	-0.166	-9.15	-0.173	-9.15	-0.169	-8.84	-0.121	-6.78	-0.010	-0.94
2015	3,687	74.6%	-0.178	-9.67	-0.158	-8.73	-0.169	-8.97	-0.166	-8.73	-0.121	-6.69	-0.006	-0.54
2016	3,659	75.9%	-0.155	-8.30	-0.137	-7.50	-0.144	-7.63	-0.138	-7.22	-0.095	-5.19	-0.005	-0.47
2017	3,669	76.9%	-0.145	-7.23	-0.128	-6.52	-0.134	-6.57	-0.118	-5.74	-0.079	-3.99	-0.011	-0.96
2018	3,435	77.5%	-0.165	-7.59	-0.150	-7.00	-0.154	-6.98	-0.141	-6.31	-0.113	-5.24	-0.025	-2.08

Note on controls:

(3) Refined age variable is estimated by age minus 22 minus total Oracle years.

(5) Refined tenure variables are: time in company (Oracle America), part-time/full-time, total oracle tenure (including time at acquisition and non-USA affiliate), cumulative time spent on leave of absence, whether leave of absence was in current year, time in job, and whether the employee arrived at oracle as an experienced hire or through an acquisition.

(6) Work-related variables are: job title, organization, and whether the employee ever has a patent bonus.

Table 5

2013 through 2018 African-American Differences in Total Compensation at Oracle Headquarters by Year, with Various Characteristics Controlled

- Full-Year Incumbents in the PRODEV Job Function -

Controls for ...														
			African-American Only (1)		Adds Gender (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Refined Tenure Variables (5)		Adds Work-Related Variables (6)	
Year	Number of Workers	% African-American	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value
2013	1,062	2.4%	-0.277	-2.63	-0.264	-2.55	-0.273	-2.65	-0.285	-2.76	-0.238	-2.50	-0.016	-0.31
2014	1,018	2.6%	-0.396	-3.37	-0.379	-3.26	-0.394	-3.41	-0.414	-3.58	-0.368	-3.45	-0.036	-0.57
2015	962	2.6%	-0.421	-3.70	-0.402	-3.56	-0.417	-3.72	-0.439	-3.92	-0.391	-3.70	-0.073	-1.15
2016	910	3.2%	-0.435	-4.20	-0.414	-4.02	-0.427	-4.18	-0.433	-4.23	-0.351	-3.61	-0.080	-1.34
2017	876	3.1%	-0.466	-4.03	-0.440	-3.83	-0.447	-3.92	-0.440	-3.85	-0.375	-3.44	-0.066	-1.02
2018	800	3.4%	-0.464	-3.67	-0.445	-3.55	-0.449	-3.59	-0.438	-3.50	-0.391	-3.26	-0.077	-1.06

Note on controls:

(3) Refined age variable is estimated by age minus 22 minus total Oracle years.

(5) Refined tenure variables are: time in company (Oracle America), part-time/full-time, total oracle tenure (including time at acquisition and non-USA affiliate), cumulative time spent on leave of absence, whether leave of absence was in current year, time in job, and whether the employee arrived at oracle as an experienced hire or through an acquisition.

(6) Work-related variables are: job title, organization, and whether the employee ever has a patent bonus.

Table 6

2013 through 2018 Gender Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- Experienced Hires in INFTECH, PRODEV, and SUPP Job Functions -

Controls for ...														
			Gender Only (1)		Adds Race (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Work-Related Variables (6)	
Job Function	Number of Workers	Number of Women	Gender Coefficient	T-Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value
INFTECH	283	57	-0.122	-2.77	-0.131	-3.12	-0.131	-3.37	-0.128	-3.29	-0.133	-3.46	-0.022	-1.01
PRODEV	1,817	383	-0.150	-8.70	-0.149	-8.84	-0.135	-9.35	-0.135	-9.84	-0.137	-10.10	-0.015	-2.22
SUPP	42	7	0.130	0.86	0.009	0.07	-0.073	-0.67	-0.087	-0.77	-0.047	-0.38	-0.006	-0.04

Note on controls:

(3) Refined age variable is estimated by age minus 22.

(6) Work-related variables are: job title and organization.

Table 7

2013 through 2018 Gender Differences in Starting Base Salary at Oracle Headquarters by Year, with Various Characteristics Controlled
- Experienced Hires with Recorded Education Characteristics in INFTECH, PRODEV, and SUPP Job Functions -

Controls for ...														
			Gender Only (1)		Adds Race (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Work- Related Variables (6)	
Job Function	Number of Workers	Number of Women	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value	Gender Coefficient	T- Value
INFTECH	211	45	-0.108	-2.41	-0.117	-2.63	-0.122	-2.95	-0.121	-2.95	-0.126	-3.10	-0.024	-0.92
PRODEV	34	5	-0.126	-7.01	-0.125	-7.05	-0.116	-7.70	-0.119	-7.84	-0.123	-8.34	-0.015	-1.85
SUPP	1,281	273	-0.010	-0.07	0.004	0.03	-0.068	-0.58	-0.079	-0.66	-0.057	-0.44	-0.006	-0.04

Note on controls:

(3) Refined age variable is estimated by age minus 22.

(6) Work-related variables are: job title and organization.

Table 8

2013 through 2018 Asian Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- Experienced Hires in the PRODEV Job Function -

Controls for ...													
		Asian Only (1)		Adds Gender (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Work-Related Variables (6)	
Number of Workers	Number of Asians	Asian Coeffie nt	T-Value	Asian Coeffie nt	T-Value	Asian Coeffie nt	T-Value	Asian Coeffie nt	T-Value	Asian Coeffie nt	T-Value	Asian Coeffie nt	T-Value
1,661	1,292	-0.115	-6.59	-0.110	-6.47	-0.001	-0.08	0.002	0.15	-0.004	-0.25	0.000	0.03

Note on controls:

(3) Refined age variable is estimated by age minus 22.

(6) Work-related variables are: job title and organization.

Table 9

2013 through 2018 Asian Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- Experienced Hires with Recorded Education Characteristics in the PRODEV Job Function -

Controls for ...													
		Asian Only (1)		Adds Gender (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Work-Related Variables (6)	
Number of Workers	Number of Asians	Asian Coefficient	T- Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value
1,172	929	-0.096	-5.14	-0.092	-5.08	0.020	1.21	0.018	1.06	0.008	0.48	0.004	0.41

Note on controls:

(3) Refined age variable is estimated by age minus 22.

(6) Work-related variables are: job title and organization.

Table 10

**2013 through 2018 African-American Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- Experienced Hires in the PRODEV Job Function -**

Controls for ...													
		African-American Only (1)		Adds Gender (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Work-Related Variables (6)	
Number of Workers	Number of African-Americans	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value
377	8	-0.413	-3.25	-0.402	-3.24	-0.351	-3.02	-0.320	-2.91	-0.318	-2.88	-0.099	-1.52

Note on controls:

(3) Refined age variable is estimated by age minus 22.

(6) Work-related variables are: job title and organization.

Table 11

2013 through 2018 African-American Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- Experienced Hires with Recorded Education Characteristics in the PRODEV Job Function -

Controls for ...													
		African-American Only (1)		Adds Gender (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Work-Related Variables (6)	
Number of Workers	Number of African-Americans	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value
249	6	-0.529	-4.26	-0.500	-4.19	-0.444	-3.90	-0.431	-3.78	-0.420	-3.69	-0.104	-1.32

Note on controls:

(3) Refined age variable is estimated by age minus 22.

(6) Work-related variables are: job title and organization.

Table 12

**2013 through 2018 Gender Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- College Hires in the PRODEV Job Function -**

Controls for ...													
		Gender Only (1)		Adds Race (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Global Career Level (6)	
Number of Workers	Number of Women	Gender Coefficient	T- Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value	Gender Coefficient	T-Value
664	212	0.011	1.60	0.010	1.45	0.017	3.00	0.014	2.48	0.008	1.75	0.007	1.61

Note on controls:

(3) Refined age variable is estimated by age minus 22.

There are too few college hires in the INFTECH and SUPP job functions to run regressions.

Table 13

**2013 through 2018 Asian Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- College Hires in the PRODEV Job Function -**

Controls for ...													
		Asian Only (1)		Adds Gender (2)		Adds Previous Experience (3)		Adds Refined Age Variable (3)		Adds Hire Year (5)		Adds Global Career Level (6)	
Number of Workers	Number of Asians	Asian Coefficient	T- Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value	Asian Coefficient	T-Value
628	592	-0.005	-0.34	-0.005	-0.35	-0.004	-0.36	-0.002	-0.14	0.001	0.06	-0.011	-1.26

Note on controls:

(3) Refined age variable is estimated by age minus 22.

Table 14

**2013 through 2018 African-American Differences in Starting Base Pay at Oracle Headquarters by Year, with Various Characteristics Controlled
- College Hires in the PRODEV Job Function -**

Controls for ...													
		African-American Only (1)		Adds Gender (2)		Adds Refined Age Variable (3)		Adds Education (4)		Adds Hire Year (5)		Adds Global Career Level (6)	
Number of Workers	Number of African-Americans	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value	African-American Coefficient	T-Value
49	13	-0.045	-1.07	-0.040	-0.93	0.014	0.49	0.024	0.85	-0.013	-0.48	-0.008	-0.35

Note on controls:

(3) Refined age variable is estimated by age minus 22.

Attachment A: Saad CV and Testimony

ALI SAAD, Ph.D., MANAGING PARTNER

Dr. Saad is the Managing Partner of Resolution Economics LLC. He has a Ph.D. in Economics from the University of Chicago. Prior to Resolution Economics, Dr. Saad was a partner at Deloitte & Touche LLP and at Altschuler, Melvoin and Glasser LLP. Before that he was in the disputes consulting group at Price Waterhouse, first in New York, and then in Los Angeles. Prior to his consulting career, Dr. Saad served as an Assistant Professor of Economics at Baruch College of the City University of New York (CUNY).

Professional Experience

Dr. Saad's experience is extensive in the area of statistical and economic analysis of liability and damages related to employment litigation matters. His experience is extensive in the application of economics and statistical methods to class action employment discrimination matters. He is also experienced in designing, implementing, and analyzing surveys and observation studies as well as conducting empirical analyses related to exempt/non-exempt status, hours worked, uncompensated time, meal and rest breaks, rounding, and other wage and hour issues. He has also performed statistical and damages analyses for a broad range of commercial litigation matters including breach of contract, insurance coverage, environmental claims, patent infringement, antitrust and real estate financing. Dr. Saad has testified a number of times at deposition and trial. Dr. Saad also regularly consults to clients regarding business issues related to employment practices.

Employment Matters

Dr. Saad provides a variety of services related to employment litigation. His experience is extensive in conducting statistical and economic analysis related to issues of liability for employment discrimination matters. He also has designed and conducted many surveys and observational studies related to wage and hour issues. Dr. Saad has also performed analyses of economic damages in both class action and single plaintiff matters.

Statistical and Economic Analysis in Discrimination Matters

Assignments representative of Dr. Saad's experience in performing analyses in connection with employment discrimination matters include the following:

- Consulting and expert witness services in national class action race discrimination matter involving issues of pay, promotion, work assignment, and a variety of other challenged employment practices. Services included creating databases from diverse and voluminous source materials, and conducting extensive statistical analyses.
- Consulting and expert witness services in national class action gender discrimination matter involving issues of job assignment and promotion. Services included creating databases from diverse and voluminous source materials, and conducting extensive statistical analyses.



- Consulting and expert witness services in a class action case alleging that contracts were misleading. Services included processing and analyzing large quantities of data, and performing statistical analysis of the criteria determining class membership.
- Consulting and expert witness services in connection with a major class action alleging gender discrimination in pay and promotion at a large high-tech employer. Services included creating analytical databases, and developing economic and statistical arguments concerning the relationship between productivity-related variables, pay/promotion, and gender.
- Consulting and expert witness services in an antitrust and discrimination matter in which a group of businesses alleged violations of antitrust and discrimination laws by another group of businesses. Services included data construction, and statistical analysis related to issues of liability.
- Consulting and expert witness services on behalf of plaintiffs' counsel in a series of cases alleging race discrimination in hiring. Services included creating analytical databases, studying the relationship between race and hiring, and examining the features of the external labor market.
- Consulting and expert witness services in connection with a class action claim of discrimination based on age in connection with a series of layoffs resulting from the combination of two large retail chains. Services included creating analytical databases, studying the relationship between layoff and age, and examining the relationship between age and workforce composition over.
- Consulting and expert witness services in connection with EEOC allegations of race discrimination in recruiting, hiring, and initial placement at a large service providing company. Services included developing databases from diverse paper and electronic sources, and providing statistical arguments concerning the relationship between race and various other factors.
- Consulting and expert witness services to defendant's counsel in connection with a major class action alleging gender discrimination in multiple employment practices at a national retail chain. Services included developing a database from voluminous paper documents, and conducting analysis related to hiring, initial placement, and initial pay.
- Consulting and expert witness services to defendant's counsel in connection with an EEOC investigation of racial discrimination in hiring by a major service providing organization. Services included developing a database, and conducting statistical analysis related to hiring.
- Consulting services to defendant's counsel in connection with a U.S. Department of Labor OFCCP investigation of pay equity at a high-tech company. Services included design and oversight of a statistical analysis of pay equity, assessment of the OFCCP methodology, and participation in conciliation discussions between the company and the OFCCP.
- Consulting and expert witness services to defendant's counsel in connection with an allegation of age discrimination in terminations resulting from a series of mass layoffs. Services provided included developing statistical arguments concerning the relationship between age and termination.



- Consulting services to defendant's counsel in connection with a Department of Justice investigation regarding allegations of racial profiling by a large city police department. Analyzed departmental data related to over 130,000 traffic stops, pedestrian stops, and other types of police contacts that occurred in four selected weeks in 1997 and four selected weeks in 1999. Cross-referenced traffic stops data with other information sources including human resources data, precinct level paper records, and the officer discipline system to test various hypotheses.
- Consulting services and expert testimony to defendant's counsel in connection with a multi-plaintiff matter alleging race and gender discrimination in promotion and placement into coveted positions by a large city police department. Performed statistical analysis of promotion and placement into coveted positions. Quantified economic damages for several plaintiffs under failure to promote and wrongful termination theories.
- Consulting services in a case against a city government alleging discrimination in recruiting and hiring of police and firefighters. Services included using Census and other large-scale data sources to assess labor market characteristics by detailed geographic location, and conducting extensive analysis of the impact of employment tests on hiring.
- Consulting and expert witness services to defendant's counsel in a matter where plaintiff alleged that defendant's hiring practices discriminated against women. Services included converting diverse paper source materials into a usable database, and developing statistical evidence concerning plaintiff's allegation.
- Consulting services in several class action recruiting and hiring matters. Services included use of detailed census and other data to estimate labor market availabilities by geographic location, and analyzing employment practices in light of these availability findings.
- Consulting services to a major bank involved in an analysis of its fair lending practices. Services included using bank data on applicants for mortgages and other loans, and adding various demographic and geographic information to assess if the bank made loans on the basis of race, or controlling for other, observable factors could explain patterns in loan making.
- Consulting services on behalf of defendant's counsel in a major class action matter involving allegations of gender discrimination in promotion. Services included building analytical database from many sources, using the database to conduct extensive statistical analysis of plaintiffs' allegations, and estimating damages resulting from non-promotion for approximately 3,000 women occupying different jobs over a ten-year period.
- Consulting and expert witness services on behalf of defendant's counsel in two related cases alleging age discrimination in termination. Prior to plaintiffs' vesting for certain long term benefits. Services included using defendant's human resource data to test plaintiffs' specific allegations, developing statistical arguments concerning the relationship between age and termination, and performing analyses of plaintiff's damages in each case.
- Consulting services on behalf of plaintiff's counsel in distribution of award in an age discrimination matter with 75 plaintiffs. Services included developing a method to efficiently compute damages for all plaintiffs, and working with counsel, an arbitrator, and plaintiffs' committee to explain the process to plaintiffs' group.



Wage and Hour Matters

Assignments representative of Dr. Saad's experience in wage and hours matters include:

- Consulting and expert witness services to defense counsel in a national class-action wage and hour matter alleging that several thousand loan originators at a large financial institution were misclassified under FLSA. Conducted statistical analyses of hours worked records, compensation data, plaintiffs' declarations, and other data to determine if select groups of plaintiffs would be representative of the class.
- Consulting and expert witness services to defense counsel in a wage and hour matter alleging that several thousand General Managers and Assistant Managers at a large office supply retailer were misclassified as exempt employees. Services included designing and conducting a survey to examine whether class members were appropriately classified, analyzing the company's labor model and human resources data, and conducting statistical analyses related to a variety of class certification issues.
- Consulting and expert witness services to defense counsel in a wage and hour matter alleging that several thousand Assistant Managers at a large general merchandise retailer were misclassified as exempt employees. Services included designing and conducting both a survey and an observational study, to examine whether or not class members were appropriately classified. Services also included conducting extensive statistical analyses of the data collected by the survey and the observational study, and preparing materials for use in class certification proceedings.
- Consulting services to defense counsel in a class action matter alleging failure to pay overtime wages to independent sales and service representatives for a large national tool franchiser. Services included designing and implementing an hours survey to determine whether the additional hours worked claimed by some plaintiffs was representative of the additional hours worked by the class as a whole. Determined that the problem was isolated to certain geographic areas rather than nationwide.
- Consulting and expert witness services to defense counsel in a wage and hour matter alleging that several hundred store managers and assistant store managers at a chain of retail discount stores were misclassified. Services included creating and implementing a survey to examine whether class members were classified appropriately and conducting statistical analyses related to commonality of class-members and other class certification issues.
- Consulting services to defense counsel in a multi-plaintiff wage and hour matter alleging that the defendant employer failed to compensate security guards for uniform changing time and other claims of off-the-clock work. Services included designing and conducting an observation study to measure time associated with various activities.
- Consulting services to defense counsel in wage and hour matter alleging that store managers at a chain of convenience store/ gas station operations were misclassified as exempt workers. Services included designing and conducting a random sampling scheme and observational study to evaluate the amount of time that class members spent on exempt and non-exempt duties.
- Consulting services to defense counsel in a class-action wage and hour matter alleging uncompensated meal periods and breaks, unpaid overtime wages, and minimum wage violations at a field maintenance company.



Services included creating a database of hours worked from paper and electronic records, and then providing damages estimates based on a variety of assumptions and legal theories.

- Consulting services to defense counsel in a class action matter alleging a variety of wage and hour violations for hourly workers at a chain of warehouse stores. Services included analyzing data to test allegations of improper time adjustments, missed meal and rest periods, uncompensated split shifts, reporting time violations, overtime and regular rate issues, and off-the-clock work.

Employment Damages

Assignments representative of Dr. Saad's experience estimating economic damages include the following:

- Consulting services to plaintiff's counsel in a case involving a breach of employment contract allegation by a high-level executive in the emerging communications industry. Services included damages analysis based on valuation of stock options and estimation of future earnings.
- Consulting services to defendant's counsel in a case involving a wrongful termination allegation by a high-level executive in the telecommunication industry. Services included damages analysis based on valuation of stock options using the Black-Scholes Option Pricing Framework and a Monte Carlo Simulation Model.
- Consulting and expert witness services on behalf of defendant's counsel in a matter brought by a former executive who alleged wrongful termination and age discrimination against a major defense contractor following a reduction in force. Critiqued work product of the opposing expert, evaluated mitigation issues, calculated loss of earnings damages and valued losses related to stock options.
- Consulting and expert witness services on behalf of defendant's counsel in a medical malpractice action where the underlying damages issue was valuing an income stream from a closely held cash business. Performed accounting of plaintiff's financial records to determine the existence and the extent of fraud. Created financial models to calculate damages under a variety of scenarios.
- Consulting and expert witness services to defendant's counsel in a wrongful termination matter brought by senior executive of a high-tech company who alleged age discrimination. Performed analysis of mitigation factors, calculated loss of earnings, and valued future stock options.

Commercial Litigation

Dr. Saad has assisted clients in a variety of commercial litigation matters, including patent infringement, insurance coverage, antitrust, breach of contract, and real estate financing. Assignments representative of Dr. Saad's experience in these areas include the following:

- Consulting and expert witness services in a series of cases involving the real property title insurance industry. Services included performing extensive statistical analyses in connection with both liability and damages issues.



- Consulting and expert witness services in a case alleging breach of loan commitment to a commercial real estate concern. Services included constructing financial models, developing economic arguments relating to fixed versus variable rate loans, and assisting counsel in deposing the opposing expert.
- Consulting and expert witness services in a case involving a breach of contract allegation in the computer hardware industry. Services consisted of performing a damages calculation, and rebutting the opposing expert's analysis.
- Consulting and expert witness services in a case alleging that one entity caused another entity's property to be misused. Services included database creation, and statistical analysis related to issues of causation. Results indicated that there was a statistically significant relationship between defendant's actions and plaintiff's economic condition.
- Consulting services on behalf of defendant's counsel in a breach of contract matter in the context of natural resource raw materials shipping. Services included developing economic arguments regarding the but-for pricing of both the shipping service as well as the material being shipped.
- Consulting and expert witness services on behalf of defendant's counsel in a major insurance coverage case, in which the underlying claims resulted from tens of thousands of asbestos claims. Services included developing strategy for dealing with large amounts of paper information, creating a database for analysis, and performing a variety of statistical analyses.
- Consulting services on behalf of plaintiff's counsel in an antitrust matter in the consumer electronics product market. The antitrust practice alleged was predatory pricing. Services included preparing a damage analysis.
- Consulting services on behalf of defendant's counsel in a patent infringement matter in the computer hardware industry. Services included researching transfer pricing issues and analyzing complex company P&L data in preparation for damages calculation.
- Consulting services on behalf of defendant's counsel in a real estate financing dispute. Dispute revolved around the financing of a major New York office property. Services included analysis of interest rates and their relationship to potential damages at various points in time, as well as the construction of a financial model of the property with the but-for financing in place.
- Consulting services on behalf of plaintiff's counsel in an antitrust matter involving allegations of non-competitive practices and predatory pricing in the home cable television market. Services included an analysis of "raising rivals costs", as well as a statistical analysis of pricing of complex products over time.



Summary of Employment Experience

Resolution Economics LLC:

Managing Partner, October 1998 to date.

University of Southern California

Adjunct Associate Professor in the Department of Economics, January 1999 to September 2001.

Deloitte & Touche, LLP:

Partner, Dispute Consulting Services, (Los Angeles), 1998.

Altschuler, Melvoin and Glasser LLP:

Partner, Economics and Litigation Services, (Los Angeles), 1995 to 1998.

Price Waterhouse LLP:

Senior Manager, Manager, Litigation and Corporate Recovery Services Group, (New York and Los Angeles), January 1989 – November 1989, June 1990 to 1995.

Olympia & York Companies (USA):

Assistant VP and Senior Economist, (New York), November 1989 - June 1990.

Baruch College, City University of New York (CUNY):

Instructor and Assistant Professor of Economics, Department of Economics and Finance, 1982-1988; Center for the Study of Business and Government, Research Associate, 1983-1986; U.S. Small Business and Veterans Administrations, Consultant, 1985-1986.

Education

Ph.D., Economics, The University of Chicago.

B.A., History, Economics, The University of Pennsylvania

Publications

Financial Success and Business Ownership among Vietnam and other Veterans (with S. Lustgarten) SBA - 7210 - VA - 83, 1986.

"Schooling and Occupational Choice in 19th Century Urban America", Journal of Economic History, vol. 49, no. 2, June 1989.

"Employment Discrimination Litigation", chapter in Litigation Services Handbook, ed. by Roman Weil, et al., 1995, 2001, 2006, 2012, 2017.

"Employment Discrimination", chapter in Litigation Support Report Writing, ed. by Jack P. Friedman, et al, 2003.



Paul Grossman, Paul Cane, and Ali Saad, “Lies, Damned Lies, and Statistics: How the Peter Principle Warps Statistical Analysis of Age Discrimination Claims”, The Labor Lawyer, vol. 22, no. 3, Winter/Spring 2007, pp. 251-268.

Saad, Ali, “Beyond the Peter Principle – How Unobserved Heterogeneity in Employee Populations Affects Statistical Analysis in Age Discrimination Cases: Application to a Termination/RIF Case”, AELC Conference Volume, 2007.

Saad, Ali, “Filling the Data Vacuum in Wage and Hour Litigation: The Example of Misclassification Cases, Emphasis on Class Certification”, SIOP Annual Conference Proceedings, 2009.

Saad, Ali, “Wage and Hour Cases - Filling the Data Vacuum: Misclassification Cases and Other Observational Studies”, SIOP Annual Conference Proceedings, 2012.

Presentations

Dr. Saad has delivered many presentations at professional conferences, to law firms and to industry groups.

Academic Honors

Finalist, Allan Nevins National Doctoral Dissertation Award
NIMH Doctoral Fellowship, The University of Chicago
Magna Cum Laude, The University of Pennsylvania
Honors in History, Economics, The University of Pennsylvania
Omicron Delta Epsilon, Honor Society in Economics

Professional Affiliations

American Economic Association
American Bar Association (associate membership)

Ali I. Saad, Ph.D.
Attachment to Resume

Last Four Years of Testimony:

In the matter of Scott, et al., v. Airport Management Services, et al., Case No: BC593927 (Superior Court for the State of California, County of Los Angeles) in connection with wage and hour claims. Report filed March 21, 2019. Deposition April 17, 2019.

In the matter of Cortina, et al., v. North American Title Company, Case no. 07 CE CG 01169 JH, (Superior Court of the State of California, County of Fresno), in connection with class action employment matter. Reports filed May 11, 2012, June 25, 2012, and August 13, 19, 21, and 26, 2015. Deposition September 8 and 9, 2015. Trial testimony December 3 and December 10, 2015. Hearing testimony March 14, April 12, May 18, July 12, 2018, September 18, 2018, November 26th, 2018, May 1, 2019.

In the matter of Jewett, et al., v. Oracle America, Inc., Case No: 17-CIV-02669 (Superior Court for the State of California, County of San Mateo) in connection with class action employment discrimination claims. Report filed March 6, 2019. Deposition Testimony March 18, 2019.

In the matter of Smiles, et al., v. Walgreen Company, et al., Case No: RG-17862495 (Superior Court for the State of California) in connection with wage and hour claims. Report filed February 22, 2019, deposition testimony February 25, 2019.

In the matter of Kennard v. Reeves, Case No: BD 604 788 (Superior Court for the State of California) in connection with reasonable compensation issues. Reports filed January 28, 2019 and February 4, 2019. Arbitration Testimony February 22, 2019, May 20, 2019.

In the matter of EEOC, et al., v. Jackson National Life Insurance, et al., Case No: 16-CV-2472-PAB-SKC, (United States District Court for the District of Colorado) in connection with class action discrimination claims. Reports filed August 31, 2018, October 26, 2018 and June 28, 2019. Deposition July 18, 2019.

In the matter of Leanna Delgado v. California Commerce Club, Inc., et al., Case No: BC 586727, (Superior Court for the State of California for the County of Los Angeles) in connection with allegations of age discrimination. Deposition July 25, 2018.

In the matter of Hall v. Rite Aid Corporation, Case No. 37-2009-00087938-CU-OE-CTL, (Superior Court for the State of California for the Country of San Diego) in connection with suitable seating claims. Deposition January 20, 2012, Report filed on June 11, 2018.

In the matter of Harris, et al., v. Union Pacific, Case No: 8:16-cv-381, (United States District Court For the District of Nebraska) in connection with class action discrimination claims. Report filed May 3, 2018. Deposition May 23, 2018.

In the matter of Henderson, et al., v. JP Morgan Chase, Case No. 11-CV-03428 (PLAx), (United States District Court For the Central District of California) in connection with wage and hour claims. Report filed February 26, 2018. Deposition March 21, 2018.

In the matter of Moussouris, et al., v. Microsoft, Case No. 15-CV-1483 (JLR), (United States District Court for the Western District of Washington) in connection with class action claims of gender discrimination in pay, performance and promotions. Reports filed January 5, 2018, April 6, 2018 and April 25, 2018. Deposition January 30, 2018.

In the matter of Creative Artists Agency LLC, v. Martin Lesak, et al., JAMS Ref nos. 120032335, 336 and 337 (Arbitral Tribunal of JAMS) in connection with breach of contract claims. Deposition January 16 and 21, 2018 and March 19, 2018. Arbitration testimony March 26, April 16, and September 7, 2018.

In the matter of Negrete, et al., v. Conagra Foods, Inc., Case No. 2:16-cv-631-FMO-AJW, (United States District Court For the Central District of California) in connection with class action wage and hour claims. Report filed February 28, 2018. Deposition April 18, 2018. Revised report filed on June 18, 2018 to respond to a revised report filed by plaintiff's expert.

In the matter of Woods, et al., v. JFK Memorial Hospital, Inc., Case No. INC 1205209, (Superior Court of California, County of Riverside), in connection with wage and hour claims. Report filed October 13, 2017. Deposition November 29, 2017.

In the matter of Bridewell-Sledge, et al., v. Blue Cross of California, et al., Case No. BC 477 451 c/w BC 481 586, (Superior Court of California, County of Los Angeles), in connection with employment discrimination claims. Reports filed September 7, 2017 and June 13, 2018. Deposition October 30, 2017.

In the matter of Truitt, et al., v. Atlanta Independent School System, Case No. 1:15-cv-4295-SCJ-WEJ, (United States District Court, Northern District of Georgia, Atlanta Division), in connection with allegations of employment discrimination. Report filed August 31, 2017. Deposition September 20, 2017.

In the matter of Williams, et al., v. TGI Fridays, Inc. Case No. 15-cv-0426, (United States District Court, Northern District of Illinois), in connection with allegations of wage and hour violations. Report filed August 4, 2017, deposition August 25, 2017.

In the matter of Victor Cejka, et al., v. Vectrus Systems Corporation, et al. Case No. 15-cv-02418-MEH, (United States District Court, District of Colorado), in connection with alleged employment damages. Report filed July 17, 2017, Rebuttal report filed August 14, 2017. Trial testimony June 18, 2018.

In the matter of EEOC, v. GMRI, Inc. Case No. 15-cv-20561-JAL, (United States District Court, Southern District of Florida, Miami Division), in connection with allegations of employment discrimination. Report filed April 21, 2017, deposition June 8, 2017.

In the matter of Bowerman, et al., v. FAS, Civil Action No. 13-00057-WHO, (United States District Court, Northern District of California), in connection with wage and hour allegations. Rebuttal Report filed April 6, 2017, deposition April 11, 2017.

In the matter of Romero, et al., v. Allstate Insurance Company, et al., Consolidated Cases, Civil Action No. 01-3894-MAK, (United States District Court, Eastern District of Pennsylvania), in connection with employment discrimination allegations. Rebuttal Report filed March 20, 2017, deposition March 29, 2017.

In the matter of Urbano, et al., v. SMG Holdings, et al., Case No.: 5:15-cv-00603-MMM (MRW), (United States District Court for the Central District of California), in connection with wage and hour allegations. Report filed October 14, 2016, deposition October 26, 2016.

In the matter of In re: AutoZone, Inc., Wage and Hour Employment Practices Litigation, Case No.: 3:10-cv-02159-CRB (JSC), (United States District Court for the Northern District of California), in connection with wage and hour allegations. Report filed April 29, 2016, deposition May 27, 2016.

In the matter of EEOC v. Texas Roadhouse, Inc., et al. Case No.:1:11-cv-11732 (United States District Court for the District of Massachusetts), in connection with allegations of age discrimination. Reports filed April 22, 2016 and July 20, 2016. Deposition June 17, 2016; trial testimony January 26, 2017.

In the matter of Luanna Scott, et al., v. Family Dollar Stores, Inc., Case No.:3:08-cv-540 (United States District Court for the Western District of North Carolina), in connection with allegations of gender discrimination. Reports filed January 28, 2016, May 31, 2016. Deposition February 10, 2016.

In the matter of Valerie Horvath v. Western Refining Wholesale, Inc., Case no. Case No.:CIV-ds1311846 (Superior Court for the State of California, County of San Bernardino), in connection with allegations of age discrimination. Report filed November 19, 2015. Deposition January 14, 2016.

In the matter of Curley, et al., v. Savemart, et al. Case no RG13685740, (Superior Court of California, County of Alameda), in connection with class action wage and hour matter. Report filed September 2, 2015. Deposition December 18, 2015 and January 20, 2016.

In the matter of Hurt, et al., v. Commerce Energy, Inc., et al., Case no. 1:12-CV-00758, (United States District Court for the Northern District of Ohio), regarding analysis of data in connection with federal and state class action wage and hour claims. Reports filed May 29 and June 17, 2014. Deposition June 24, 2014. Trial testimony May 22, 2018.

Attachment B: Data and Documents Considered

Attachment B – Data and Documents Considered

I. Court Documents

OFCCP's Responses to Oracle's Request for Production, Second Set (Amended), April 5, 2019

Order Granting Oracle's Motion to Compel Plaintiff to Designate and Produce 30(b)(6) Witnesses, July 1, 2019

Order Denying Defendant Oracle's Motion to Compel Plaintiff OFCCP's Further Response to Requests for Admission and Order Directing OFCCP to State Position with Respect to Oracle Managers, August 8, 2019

II. Depositions and Declarations

Videotaped Deposition of Shirong (Andy) Leu, July 1, 2019

Videotaped Deposition of Michael Brunetti, July 17, 2019

Videotaped Deposition of Kate Waggoner, July 19, 2019

- Exhibits 7-8, 13, 80- 81, 84-86, 88-89, 120

III. Oracle Documents

ORACLE_HQCA_0000056234 (2016_Managing_Compensation_July_2016_v3.ppt)

IV. Expert Reports

Expert Report of Ali Saad, PhD, In the matter of Office of Federal Contract Compliance Programs, United States Department of Labor, Plaintiff, v. Oracle America, Inc., Defendant. July 19, 2019

- 364 files in backup production

Expert Report of Janice Fanning Madden, PhD, Analysis of Gender and Racial Differences in Compensation At Oracle, 2013-2018. July 19, 2019

- 273 files in backup production

V. OFCCP Produced Documents

DOL000043013.pdf

DOL000043023.pdf

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Attachment B – Data and Documents Considered

DOL000043232.pdf

DOL000043241.pdf

DOL000043537.pdf

DOL000043552.pdf

VI. Literature

Angrist, Joshua D., and Jörn-Steffen Pischke. 2010. "The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con out of Econometrics." *Journal of Economic Perspectives*, 24 (2): 3-30.

Cameron, A. Colin, and Pravin K. Trivedi. *Microeconometrics: Methods and Applications*. Cambridge University Press, 2005. Pp. 48-52.

Heckman, James J., Robert J. LaLonde, and Jeffrey A. Smith. "The economics and econometrics of active labor market programs." *Handbook of Labor Economics*, vol. 3, pp. 1865-2097. Elsevier, 1999.

Hicks, Charles. (1982) *Fundamental Concepts in the Design of Experiments*, p. 5.

Imbens, Guido W., and Jeffrey M. Wooldridge. 2009. "Recent Developments in the Econometrics of Program Evaluation." *Journal of Economic Literature*, 47 (1): 5-86.

Madden, Janice Fanning. "Gender differences in the cost of displacement: An empirical test of discrimination in the labor market." *The American Economic Review* 77, no. 2 (1987): 246-251, p. 246.

Madden, Janice Fanning. "The Persistence of Pay Differentials: The Economics of Sex Discrimination." *Women and Work: An Annual Review* (Beverly Hills: Sage Publications, 1985), pp. 76-114.

VII. Online Cites and Other Data

GitHub – ropensci/gender: Predict Gender from Names Using Historical Data. (<https://github.com/ropensci/gender>), accessed on August 12, 2019.

Kabir Khanna and Kosuke Imai (2019). wru: Who are You? Bayesian Prediction of Racial Category Using Surname and Geolocation. R package version 0.1-9. (<https://CRAN.R-project.org/package=wru>), accessed on August 8, 2019.

Lincoln Mullen (2018). Gender: Predict Gender from Names Using Historical Data. R package version 0.5.2.

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Attachment B – Data and Documents Considered

Linkedin: [REDACTED] ([https://www.linkedin.com/in/\[REDACTED\]](https://www.linkedin.com/in/[REDACTED])),
accessed on August 12, 2019.

Linkedin: [REDACTED] ([https://www.linkedin.com/in/\[REDACTED\]](https://www.linkedin.com/in/[REDACTED])),
accessed on August 12, 2019.

National Center for Education Statistics, Table 322.40. Bachelor's degrees conferred to males by postsecondary institutions, by race/ethnicity and field of study: 2014-15 and 2015-16 (https://nces.ed.gov/programs/digest/d17/tables/dt17_322.40.asp), accessed on August 12, 2019.

National Center for Education Statistics, Table 322.50. Bachelor's degrees conferred to females by postsecondary institutions, by race/ethnicity and field of study: 2014-15 and 2015-16. (https://nces.ed.gov/programs/digest/d17/tables/dt17_322.50.asp), accessed on August 12, 2019.

Oracle Job Search (<https://oracle.taleo.net/careersection/2/jobsearch.ftl?lang=en>),
accessed on August 12, 2019.

Reed Tech USPTO Data Sets. (<https://patents.reedtech.com/pgrbbib.php>), accessed on August 8, 2019.

The Gender Equity Report, Executive Summary, p. V, and p. V, footnote 1.
ALMANAC SUPPLEMENT December 4, 2001
(<https://almanac.upenn.edu/archive/v48pdf/011204/GenderEquity.pdf>).

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Attachment C: Fields of Study by Gender and Race (NCES)

Bachelor's degrees conferred to males by postsecondary institutions, by race/ethnicity and field of study: 2014-15

Field of study	N			%		
	White	Black	Asian	White	Black	Asian
All fields, total	530,418	69,316	58,848	100.0%	100.0%	100.0%
Agriculture and natural resources	14,723	470	492	2.8%	0.7%	0.8%
Architecture and related services	3,133	263	392	0.6%	0.4%	0.7%
Area, ethnic, cultural, gender, and group studies	1,100	299	233	0.2%	0.4%	0.4%
Biological and biomedical sciences	27,536	2,615	7,298	5.2%	3.8%	12.4%
Business	123,703	16,629	12,918	23.3%	24.0%	22.0%
Communication, journalism, and related programs	21,367	3,825	1,108	4.0%	5.5%	1.9%
Communications technologies	2,026	419	163	0.4%	0.6%	0.3%
Computer and information sciences	30,156	4,584	5,236	5.7%	6.6%	8.9%
Construction trades	177	4	4	0.0%	0.0%	0.0%
Education	14,342	1,675	393	2.7%	2.4%	0.7%
Engineering	50,463	2,945	8,467	9.5%	4.2%	14.4%
Engineering technologies and engineering-related fields ¹	10,149	1,326	593	1.9%	1.9%	1.0%
English language and literature/letters	10,138	1,032	524	1.9%	1.5%	0.9%
Family and consumer sciences/human sciences	1,813	455	228	0.3%	0.7%	0.4%
Foreign languages, literatures, and linguistics	4,019	235	316	0.8%	0.3%	0.5%
Health professions and related programs	21,105	3,604	3,525	4.0%	5.2%	6.0%
Homeland security, law enforcement, and firefighting	20,808	5,048	951	3.9%	7.3%	1.6%
Legal professions and studies	850	167	59	0.2%	0.2%	0.1%
Liberal arts and sciences, general studies, and humanities	10,530	2,521	507	2.0%	3.6%	0.9%
Library science	13	3	0	0.0%	0.0%	0.0%
Mathematics and statistics	7,554	495	1,347	1.4%	0.7%	2.3%
Mechanic and repair technologies/technicians	264	29	14	0.0%	0.0%	0.0%
Military technologies and applied sciences	164	26	2	0.0%	0.0%	0.0%
Multi/interdisciplinary studies	10,050	1,851	946	1.9%	2.7%	1.6%
Parks, recreation, leisure, and fitness studies	17,886	2,910	1,062	3.4%	4.2%	1.8%
Philosophy and religious studies	5,022	474	344	0.9%	0.7%	0.6%
Physical sciences and science technologies	13,203	704	1,589	2.5%	1.0%	2.7%
Precision production	25	0	3	0.0%	0.0%	0.0%
Psychology	15,977	3,032	1,955	3.0%	4.4%	3.3%
Public administration and social services	3,375	1,295	239	0.6%	1.9%	0.4%
Social sciences and history	55,483	6,562	5,505	10.5%	9.5%	9.4%
Social sciences	42,363	5,786	5,011	8.0%	8.3%	8.5%
History	13,120	776	494	2.5%	1.1%	0.8%
Theology and religious vocations	5,499	419	144	1.0%	0.6%	0.2%
Transportation and materials moving	3,065	271	136	0.6%	0.4%	0.2%
Visual and performing arts	24,700	3,129	2,155	4.7%	4.5%	3.7%
Other and not classified	0	0	0	0.0%	0.0%	0.0%

¹ Excludes "Construction trades" and "Mechanic and repair technologies/technicians," which are listed separately.

NOTE: Data are for postsecondary institutions participating in Title IV federal financial aid programs. Race categories exclude persons of Hispanic ethnicity. Reported racial/ethnic distributions of students by level of degree, field of degree, and sex were used to estimate race/ethnicity for students whose race/ethnicity was not reported. To facilitate trend comparisons, certain aggregations have been made of the degree fields as reported in the Integrated Postsecondary Education Data System (IPEDS): "Agriculture and natural resources" includes Agriculture, agriculture operations, and related sciences and Natural resources and conservation; and "Business" includes Business, management, marketing, and related support services and Personal and culinary services. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2015 and Fall 2016, Completions component. (This table was prepared August 2017.)

Bachelor's degrees conferred to females by postsecondary institutions, by race/ethnicity and field of study: 2014-15

Field of study	N			%		
	White	Black	Asian	White	Black	Asian
All fields, total	679,653	123,513	70,079	100.0%	100.0%	100.0%
Agriculture and natural resources	14,514	612	828	2.1%	0.5%	1.2%
Architecture and related services	2,172	179	443	0.3%	0.1%	0.6%
Area, ethnic, cultural, gender, and group studies	2,457	836	479	0.4%	0.7%	0.7%
Biological and biomedical sciences	38,014	5,684	9,614	5.6%	4.6%	13.7%
Business	98,803	22,555	12,689	14.5%	18.3%	18.1%
Communication, journalism, and related programs	38,464	6,437	2,343	5.7%	5.2%	3.3%
Communications technologies	1,083	198	123	0.2%	0.2%	0.2%
Computer and information sciences	5,354	1,577	1,541	0.8%	1.3%	2.2%
Construction trades	9	0	1	0.0%	0.0%	0.0%
Education	57,349	5,589	1,504	8.4%	4.5%	2.1%
Engineering	11,452	981	2,635	1.7%	0.8%	3.8%
Engineering technologies and engineering-related fields ¹	1,185	300	94	0.2%	0.2%	0.1%
English language and literature/letters	22,476	2,646	1,220	3.3%	2.1%	1.7%
Family and consumer sciences/human sciences	14,061	2,732	1,078	2.1%	2.2%	1.5%
Foreign languages, literatures, and linguistics	8,051	677	790	1.2%	0.5%	1.1%
Health professions and related programs	124,339	21,339	12,247	18.3%	17.3%	17.5%
Homeland security, law enforcement, and firefighting	13,688	7,426	577	2.0%	6.0%	0.8%
Legal professions and studies	1,751	569	106	0.3%	0.5%	0.2%
Liberal arts and sciences, general studies, and humanities	17,292	3,962	956	2.5%	3.2%	1.4%
Library science	66	7	0	0.0%	0.0%	0.0%
Mathematics and statistics	5,510	520	949	0.8%	0.4%	1.4%
Mechanic and repair technologies/technicians	16	2	0	0.0%	0.0%	0.0%
Military technologies and applied sciences	37	8	0	0.0%	0.0%	0.0%
Multi/interdisciplinary studies	19,050	3,789	1,768	2.8%	3.1%	2.5%
Parks, recreation, leisure, and fitness studies	16,302	2,174	952	2.4%	1.8%	1.4%
Philosophy and religious studies	2,728	360	237	0.4%	0.3%	0.3%
Physical sciences and science technologies	7,274	806	1,322	1.1%	0.7%	1.9%
Precision production	6	2	4	0.0%	0.0%	0.0%
Psychology	53,895	11,604	5,275	7.9%	9.4%	7.5%
Public administration and social services	15,717	6,351	779	2.3%	5.1%	1.1%
Social sciences and history	45,108	9,611	5,912	6.6%	7.8%	8.4%
Social sciences	36,757	8,912	5,531	5.4%	7.2%	7.9%
History	8,351	699	381	1.2%	0.6%	0.5%
Theology and religious vocations	2,285	366	69	0.3%	0.3%	0.1%
Transportation and materials moving	382	47	36	0.1%	0.0%	0.1%
Visual and performing arts	38,763	3,567	3,508	5.7%	2.9%	5.0%
Other and not classified	0	0	0	0.0%	0.0%	0.0%

¹ Excludes "Construction trades" and "Mechanic and repair technologies/technicians," which are listed separately.

NOTE: Data are for postsecondary institutions participating in Title IV federal financial aid programs. Race categories exclude persons of Hispanic ethnicity. Reported racial/ethnic distributions of students by level of degree, field of degree, and sex were used to estimate race/ethnicity for students whose race/ethnicity was not reported. To facilitate trend comparisons, certain aggregations have been made of the degree fields as reported in the Integrated Postsecondary Education Data System (IPEDS): "Agriculture and natural resources" includes Agriculture, agriculture operations, and related sciences and Natural resources and conservation; and "Business" includes Business, management, marketing, and related support services and Personal and culinary services. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2015 and Fall 2016, Completions component. (This table was prepared August 2017.)

**Attachment D: Sample of 20 Job Requisitions for Software
Developer 4**

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1425737

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	1425737
DATE FROM	11/10/2010
VACANCY NAME	IRC1425737
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	Replacement
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	
TALEO REQ NUMBER	
MANAGER ID	156035
MANAGER	Girkar, Mr Mahesh Baburao
ORGANIZATION NAME	Data Guard Development

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1425737

Field	Text
DEPARTMENT DESCRIPTION	<p>The position is for an individual contributor for software design and development in the Data Guard Development Group at the Oracle Headquarters in Redwood Shores, California. The Data Guard Development Group consists of about 15 people, working in the Oracle Database Server organization. Our development environment is primarily C and Oracle PL/SQL programming on Linux and Windows. Below is a brief description of the Data Guard technology that the group works on... Oracle Data Guard is the most effective, highest performing, and most comprehensive data availability, data protection, and disaster recovery solution for enterprise databases. Data Guard is the management, monitoring, and automation software infrastructure that creates, maintains, and monitors one or more standby databases to protect enterprise data from failures, disasters, errors, and corruptions. Available as a feature of the Enterprise Edition of the Oracle Database, DataGuard can be used in combination with other Oracle High Availability (HA) solutions such as Real Application Clusters (RAC) and Recovery Manager (RMAN), to provide a high level of data protection, data availability, and resource utilization that is unprecedented in the industry. Data Guard is the industry-leading disaster recovery solution, and is deployed by thousands of the most visible Oracle customers in their mission critical environments. The world's largest banks and financial institutions, such as Bank of America, the largest internet companies, such as Amazon.com, and world's largest telecom companies, such as China Mobile and British Telecom, all use Data Guard to protect their databases. Future Data Guard projects include greater availability through the extension of zero data-loss protection to databases that are geographically separated across continents, greater performance through additional scalability, and greater utilization of standby databases through the very popular Active Data Guard option. You can learn more about the Oracle Data Guard technology at: http://www.oracle.com/technology/depoy/availability/htdocs/DataGuardOverview.html Data Guard is a very high profile development project within the Oracle Database development organization, and the development team is highly skilled and well respected within the company. We are recognized as innovators, and have developed many patented ideas and features in the high availability area. Development team members come from varied backgrounds, but work very well together as a team to deliver a high quality product. Our development work is complex and non-routine, and you will be challenged in new ways every day.</p>
BRIEF POSTING DESCRIPTION	<p>Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc.</p>

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1425737

Field	Text
DETAILED DESCRIPTION	As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems.
JOB REQUIREMENTS	Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience.
ADDITIONAL DETAILS	We are looking for self-motivated individuals, who can deal with complex problems under limited supervision. Our projects are driven by customer requirements and by innovative ideas that percolate from the bottom-up as well as top-down. We are looking for talented software engineers who can come up with innovative ideas, build consensus around them, and deliver solutions in a timely fashion. The following skills are valued: Highly proficient in C. Proficiency in SQL, PL/SQL a plus Background in relational database and operating system concepts Good understanding of concurrent programming concepts Strong software engineering and debugging skills Ability to work under tight deadlines and yet deliver a quality product Ability to work with a group that is geographically dispersed
INTERNAL POSTING START DATE	11/10/2010
INTERNAL POSTING END DATE	06/02/2011
EXTERNAL POSTING START DATE	11/10/2010
EXTERNAL POSTING END DATE	06/02/2011
TALEO DESCRIPTION EXT 1	
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	
TALEO DESCRIPTION INT 2	
TALEO QUALIFICATION EXT 1	
TALEO QUALIFICATION EXT 2	
TALEO QUALIFICATION INT 1	
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	.
TALEO INTERNAL CLOSE DATE	.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1425737

Field	Text
TALEO EXTERNAL OPEN DATE	.
TALEO EXTERNAL CLOSE DATE	.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1683737

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	1683737
DATE FROM	01/06/2012
VACANCY NAME	IRC1683737
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	
TALEO REQ NUMBER	
MANAGER ID	149168
MANAGER	Ou, Mr Yuanjiang (Jerry Yuanjiang)
ORGANIZATION NAME	Corporate Architecture
DEPARTMENT DESCRIPTION	Team develops, tests and releases Oracle Enterprise Linux and Oracle Virtualization solutions.
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc.
DETAILED DESCRIPTION	As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems.
JOB REQUIREMENTS	Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience.
ADDITIONAL DETAILS	The responsibilities include- participating in the complete cycle of Oracle VM development- working closely and effectively with the entire development team- analyzing product feature design and implementation, proposing effective and complete testing solutions- designing and developing the test case, and coordinating product QA effort Required expertise - Strong programming skills in Java, python, Shell Script- Excellent knowledge of Linux OS and other Operation Systems- Experience with Oracle VM product and other virtualization products a big plus.- Excellent verbal and written communication skills- Hands on experience in network and storage configuration- Experience with Oracle ADF, Object Oriented Design and application server such as Weblogic a big plus
INTERNAL POSTING START DATE	01/06/2012
INTERNAL POSTING END DATE	07/06/2012

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1683737

Field	Text
EXTERNAL POSTING START DATE	01/06/2012
EXTERNAL POSTING END DATE	07/06/2012
TALEO DESCRIPTION EXT 1	
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	
TALEO DESCRIPTION INT 2	
TALEO QUALIFICATION EXT 1	
TALEO QUALIFICATION EXT 2	
TALEO QUALIFICATION INT 1	
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	.
TALEO INTERNAL CLOSE DATE	.
TALEO EXTERNAL OPEN DATE	.
TALEO EXTERNAL CLOSE DATE	.

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1759717

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	1759717
DATE FROM	04/11/2012
VACANCY NAME	IRC1759717
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	
TALEO REQ NUMBER	
MANAGER ID	891168424
MANAGER	Wilbourn, Robert (Sandy)
ORGANIZATION NAME	Business Intelligence/Enterprise Program Management Group
DEPARTMENT DESCRIPTION	The Business Intelligence/Enterprise Program Management group is responsible for building innovative products, which includes extensive innovative visualizations, sophisticated data modeling, and the ability to analyze the data for sophisticated business questions without building specific, narrow applications that require programming. We are building a next generation system to support new visualizations, support exploratory analysis of big data, predictive analysis, and OLAP integration, innovative use of in-memory database data structures. This project has executive focus and high visibility because of the market potential and competitive marketplace for BI solutions as the types of analysis that customers want explode with different data scenarios. Exalytics, our engineered solution for BI and specifically the visualizations that we implemented for this environment were featured in several keynotes at the last Oracle OpenWorld.
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc.
DETAILED DESCRIPTION	As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems.
JOB REQUIREMENTS	Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience.

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 1759717

Field	Text
ADDITIONAL DETAILS	The engineer who fits this role will work with both our Presentation Services group as well as our BI Server group to define the new constructs used in our next generation product as well as how these new concepts are implemented using technologies that support in-memory analysis, interactive analysis as well as mobile technologies. Being successful in this role will require several different technologies and languages, so having a passion for building software products and solving complex computer science related problems is more important than allegiance to a specific technology or language. Preferred Skills and Experience: Experience with building products from inception to delivery in the BI domain is required. Excellent problem solving and analytical skills as well as good verbal and written communication skills Technologically savvy, innovative, passionate on learning emerging technology 5+ years experience in a commercial software development environment Bachelor's degree in Computer Science/Computer Engineering or Master's preferred
INTERNAL POSTING START DATE	04/11/2012
INTERNAL POSTING END DATE	06/30/2012
EXTERNAL POSTING START DATE	04/11/2012
EXTERNAL POSTING END DATE	06/30/2012
TALEO DESCRIPTION EXT 1	
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	
TALEO DESCRIPTION INT 2	
TALEO QUALIFICATION EXT 1	
TALEO QUALIFICATION EXT 2	
TALEO QUALIFICATION INT 1	
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	.
TALEO INTERNAL CLOSE DATE	.
TALEO EXTERNAL OPEN DATE	.
TALEO EXTERNAL CLOSE DATE	.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2536454

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	2536454
DATE FROM	06/09/2014
VACANCY NAME	IRC2536454
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	Replacement
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	14000C88
MANAGER ID	893273867
MANAGER	Taha, Abe
ORGANIZATION NAME	Oracle Marketing Cloud
DEPARTMENT DESCRIPTION	<p>On April 2, Oracle completed the acquisition of BlueKai. BlueKai is the industry's leading cloud-based big data platform that enables companies to personalize online, offline and mobile marketing campaigns with richer and more actionable information about targeted audiences. BlueKai's Data Management Platform (DMP) centrally organizes a company's customer and audience data in the cloud to help implement personalized marketing campaigns across all channels and deliver better results and higher marketing ROI. BlueKai also runs the world's largest 3rd party data marketplace to augment a customer's proprietary data with actionable information on more than 700 million profiles. Approximately 300 customers across multiple industries rely on BlueKai to maximize their marketing investment. The Oracle Marketing Cloud is an integral part of the Oracle Customer Experience Cloud which includes commerce, sales, service, social and marketing. Together, the Oracle Customer Experience Cloud enables a seamless and integrated exceptional customer experience from the first touch point through the entire customer lifecycle. The BlueKai team brings significant knowledge and capabilities to Oracle and is expected to continue facilitating excellence in data-driven marketing at Oracle.</p>
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2536454

Field	Text
DETAILED DESCRIPTION	As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems.
JOB REQUIREMENTS	Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
ADDITIONAL DETAILS	Responsibilities: Collaborate in a team based environment to define, drive and deliver how Blue Kai's customers can program with dataExcellent communication skillsLearn and implement state of the art analytics and stream processing solutionsOwn the end-to-end lifecycle; design, test, build, deploy, run and scale features and infrastructure that fuels multiple business modelsDrive agile methods and best practices for web-scale code and operationsHas experience in and enjoys leveraging open-source solutionsQualifications:5+ years of software development experienceExpert Java and network programming skills and willing to learn moreExcellent working knowledge of the Java ecosystem including the JDK and commons APIExperience with the Unix/Linux environmentProficient in shell and at least one scripting languageExperience in building resilient and 'recovery oriented' systemsExperience with Amazon's EC2 and S3 product offeringsExperience with analytics on Big Data solutions, including Hadoop and other NoSQL solutions. MUST HAVE BS/MS in computer science or related fieldBonusExperience deploying and operating large scale, 24x7 transactional and offline processesSQL, stored procedures, data normalization techniques and database management
INTERNAL POSTING START DATE	06/09/2014
INTERNAL POSTING END DATE	12/31/2014
EXTERNAL POSTING START DATE	06/09/2014
EXTERNAL POSTING END DATE	12/31/2014

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2536454

Field	Text
TALEO DESCRIPTION EXT 1	<p>Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.</p>
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	<p>Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.</p>
TALEO DESCRIPTION INT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2536454

Field	Text
TALEO QUALIFICATION EXT 1	<p>On April 2, Oracle completed the acquisition of BlueKai. BlueKai is the industry's leading cloud-based big data platform that enables companies to personalize online, offline and mobile marketing campaigns with richer and more actionable information about targeted audiences. BlueKai's Data Management Platform (DMP) centrally organizes a company's customer and audience data in the cloud to help implement personalized marketing campaigns across all channels and deliver better results and higher marketing ROI. BlueKai also runs the world's largest 3rd party data marketplace to augment a customer's proprietary data with actionable information on more than 700 million profiles. Approximately 300 customers across multiple industries rely on BlueKai to maximize their marketing investment. The Oracle Marketing Cloud is an integral part of the Oracle Customer Experience Cloud which includes commerce, sales, service, social and marketing. Together, the Oracle Customer Experience Cloud enables a seamless and integrated exceptional customer experience from the first touch point through the entire customer lifecycle. The BlueKai team brings significant knowledge and capabilities to Oracle and is expected to continue facilitating excellence in data-driven marketing at Oracle. Responsibilities: - Collaborate in a team based environment to define, drive and deliver how Blue Kai's customers can program with data - Excellent communication skills - Learn and implement state of the art analytics and stream processing solutions - Own the end-to-end lifecycle; design, test, build, deploy, run and scale features and infrastructure that fuels multiple business models - Drive agile methods and best practices for web-scale code and operations - Has experience in and enjoys leveraging open-source solutions Qualifications: - 5+ years of software development experience - Expert Java and network programming skills and willing to learn more - Excellent working knowledge of the Java ecosystem including the JDK and commons API - Experience with the Unix/Linux environment - Proficient in shell and at least one scripting language - Experience in building resilient and 'recovery oriented' systems - Experience with Amazon's EC2 and S3 product offerings - Experience with analytics on Big Data solutions, including Hadoop and other NoSQL solutions. - MUST HAVE BS/MS in computer science or related field Bonus - Experience deploying and operating large scale, 24x7 transactional and offline processes - SQL, stored procedures, data normalization techniques and database management</p>
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2536454

Field	Text
TALEO QUALIFICATION INT 1	<p>On April 2, Oracle completed the acquisition of BlueKai. BlueKai is the industry's leading cloud-based big data platform that enables companies to personalize online, offline and mobile marketing campaigns with richer and more actionable information about targeted audiences. BlueKai's Data Management Platform (DMP) centrally organizes a company's customer and audience data in the cloud to help implement personalized marketing campaigns across all channels and deliver better results and higher marketing ROI. BlueKai also runs the world's largest 3rd party data marketplace to augment a customer's proprietary data with actionable information on more than 700 million profiles. Approximately 300 customers across multiple industries rely on BlueKai to maximize their marketing investment. The Oracle Marketing Cloud is an integral part of the Oracle Customer Experience Cloud which includes commerce, sales, service, social and marketing. Together, the Oracle Customer Experience Cloud enables a seamless and integrated exceptional customer experience from the first touch point through the entire customer lifecycle. The BlueKai team brings significant knowledge and capabilities to Oracle and is expected to continue facilitating excellence in data-driven marketing at Oracle. Responsibilities: - Collaborate in a team based environment to define, drive and deliver how Blue Kai's customers can program with data - Excellent communication skills - Learn and implement state of the art analytics and stream processing solutions - Own the end-to-end lifecycle; design, test, build, deploy, run and scale features and infrastructure that fuels multiple business models - Drive agile methods and best practices for web-scale code and operations - Has experience in and enjoys leveraging open-source solutions Qualifications: - 5+ years of software development experience - Expert Java and network programming skills and willing to learn more - Excellent working knowledge of the Java ecosystem including the JDK and commons API - Experience with the Unix/Linux environment - Proficient in shell and at least one scripting language - Experience in building resilient and 'recovery oriented' systems - Experience with Amazon's EC2 and S3 product offerings - Experience with analytics on Big Data solutions, including Hadoop and other NoSQL solutions. - MUST HAVE BS/MS in computer science or related field Bonus - Experience deploying and operating large scale, 24x7 transactional and offline processes - SQL, stored procedures, data normalization techniques and database management</p>
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	09JUN14:04:00:00
TALEO INTERNAL CLOSE DATE	01JAN15:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2536454

Field	Text
TALEO EXTERNAL OPEN DATE	09JUN14:04:00:00
TALEO EXTERNAL CLOSE DATE	01JAN15:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2769626

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	2769626
DATE FROM	12/27/2014
VACANCY NAME	IRC2769626
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	Replacement
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	140015IX
MANAGER ID	890230629
MANAGER	Shobe, Eric B
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Oracle Labs
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	12/27/2014

CONFIDENTIAL

D15

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2769626

Field	Text
INTERNAL POSTING END DATE	06/27/2015
EXTERNAL POSTING START DATE	12/27/2014
EXTERNAL POSTING END DATE	06/27/2015
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2769626

Field	Text
TALEO QUALIFICATION EXT 1	<p>Oracle Labs is looking for a candidate with background in embedded software development. Experience of Linux internals, device drivers, and system management at a server level is ideal. Development and debug of silicon, bring-up boards and software in a laboratory setting should be familiar. The candidate must be proficient with C, C++ and assembly. Additionally, the candidate must show proficiency in developing and debugging low-level software that includes boot code, device drivers and diagnostics. The desired candidate would have direct experience with as many of the following as possible: Preferred Skills: - Experience with service processors or embedded firmware on Linux (porting, drivers, root filesystems, etc) - Experience with ILOM or BMC management - New SoC and Board Bringup Experience. Implementation of debug and device drivers is a must. - Bus protocols: I2C/SPI/Ethernet/PCIE understanding - Very strong C development / Linux Environment - Experience with Subversion, Git, and other software versioning tools - Knowledge of languages relevant to the development process, including Perl and/or Python and Unix scripting. Finally, a successful candidate must be a versatile and skilled software developer and be able to debug at various levels of engagement in the bringup, development, and deployment of an SOC. Oracle Labs is the only dedicated research organization within Oracle and reports directly to the Chief Corporate Architect. Oracle Labs mission is straightforward: Identify, explore, and transfer new technologies that have the potential to substantially improve Oracle's business. Oracle's commitment to R&D is a driving factor in the development of technologies that have kept Oracle at the forefront of the computer industry. The Mission of Oracle Labs is straightforward: Identify, explore, and transfer new technologies that have the potential to substantially improve Oracle's business. Oracle's commitment to R&D is a driving factor in the development of technologies that have kept Oracle at the forefront of the computer industry. Although many of Oracle's leading-edge technologies originate in its product development organizations, Oracle Labs is the sole organization at Oracle that is devoted exclusively to research. The acquisition of Sun Microsystems, along with dozens of other acquired companies, brought a wide array of technologies to Oracle's portfolio. Oracle executives recognized that in Sun Microsystems Laboratories, Sun brought the combined company the benefits of an independent research organization - now renamed Oracle Labs.</p>
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2769626

Field	Text
TALEO QUALIFICATION INT 1	<p>Oracle Labs is looking for a candidate with background in embedded software development. Experience of Linux internals, device drivers, and system management at a server level is ideal. Development and debug of silicon, bring-up boards and software in a laboratory setting should be familiar. The candidate must be proficient with C, C++ and assembly. Additionally, the candidate must show proficiency in developing and debugging low-level software that includes boot code, device drivers and diagnostics. The desired candidate would have direct experience with as many of the following as possible: Preferred Skills: - Experience with service processors or embedded firmware on Linux (porting, drivers, root filesystems, etc) - Experience with ILOM or BMC management - New SoC and Board Bringup Experience. Implementation of debug and device drivers is a must. - Bus protocols: I2C/SPI/Ethernet/PCIE understanding - Very strong C development / Linux Environment - Experience with Subversion, Git, and other software versioning tools - Knowledge of languages relevant to the development process, including Perl and/or Python and Unix scripting. Finally, a successful candidate must be a versatile and skilled software developer and be able to debug at various levels of engagement in the bringup, development, and deployment of an SOC. Oracle Labs is the only dedicated research organization within Oracle and reports directly to the Chief Corporate Architect. Oracle Labs mission is straightforward: Identify, explore, and transfer new technologies that have the potential to substantially improve Oracle's business. Oracle's commitment to R&D is a driving factor in the development of technologies that have kept Oracle at the forefront of the computer industry. The Mission of Oracle Labs is straightforward: Identify, explore, and transfer new technologies that have the potential to substantially improve Oracle's business. Oracle's commitment to R&D is a driving factor in the development of technologies that have kept Oracle at the forefront of the computer industry. Although many of Oracle's leading-edge technologies originate in its product development organizations, Oracle Labs is the sole organization at Oracle that is devoted exclusively to research. The acquisition of Sun Microsystems, along with dozens of other acquired companies, brought a wide array of technologies to Oracle's portfolio. Oracle executives recognized that in Sun Microsystems Laboratories, Sun brought the combined company the benefits of an independent research organization - now renamed Oracle Labs.</p>
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	27DEC14:03:00:00
TALEO INTERNAL CLOSE DATE	27JUN15:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2769626

Field	Text
TALEO EXTERNAL OPEN DATE	27DEC14:03:00:00
TALEO EXTERNAL CLOSE DATE	28DEC15:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2783536

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	2783536
DATE FROM	01/30/2015
VACANCY NAME	IRC2783536
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	150004DM
MANAGER ID	888622867
MANAGER	Mackenthun, Tok Hui
ORGANIZATION NAME	Oracle US
DEPARTMENT DESCRIPTION	Document - Cloud
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	01/30/2015
INTERNAL POSTING END DATE	07/30/2015
EXTERNAL POSTING START DATE	04/06/2015
EXTERNAL POSTING END DATE	07/30/2015

CONFIDENTIAL

D20

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2783536

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	
TALEO QUALIFICATION EXT 1	<p>Oracle Documents Cloud Service provides secure document sharing across devices and outside the organization. Our server team is seeking engineers to build a simple and highly scalable big data analytics platforms to enable tracking, measuring, reporting, and other custom analytic workflows and tools that others can use.</p> <p>RESPONSIBILITIES:</p> <ul style="list-style-type: none"> • Build solutions that enable sophisticated automation and workflows • Implement cutting edge models and algorithms that operate on massive amounts of data • Develop high performance and scalable solutions that extract, transform, and load big data • Build analytics solution to track user actions • Design and implement data instrumentation, collection & storage processes <p>QUALIFICATIONS:</p> <ul style="list-style-type: none"> • BS/MS/PhD in Computer Science or related fields • Demonstrated expertise in building analytics solutions (instrumentation, data collection, data analysis) • Strong knowledge of algorithms, data structures and object oriented programming • Experience with Java, Database design, In-Memory Caching, NoSQL, Hadoop, Hive, or other MapReduce solutions • Knowledge of an analytics platform, statistics, machine learning is a plus • 5+ years of professional software engineering experience
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2783536

Field	Text
TALEO QUALIFICATION INT 1	<p>Oracle Documents Cloud Service provides secure document sharing across devices and outside the organization. Our server team is seeking engineers to build a simple and highly scalable big data analytics platforms to enable tracking, measuring, reporting, and other custom analytic workflows and tools that others can use.</p> <p>RESPONSIBILITIES:</p> <ul style="list-style-type: none"> • Build solutions that enable sophisticated automation and workflows • Implement cutting edge models and algorithms that operate on massive amounts of data • Develop high performance and scalable solutions that extract, transform, and load big data • Build analytics solution to track user actions • Design and implement data instrumentation, collection & storage processes <p>QUALIFICATIONS:</p> <ul style="list-style-type: none"> • BS/MS/PhD in Computer Science or related fields • Demonstrated expertise in building analytics solutions (instrumentation, data collection, data analysis) • Strong knowledge of algorithms, data structures and object oriented programming • Experience with Java, Database design, In-Memory Caching, NoSQL, Hadoop, Hive, or other MapReduce solutions • Knowledge of an analytics platform, statistics, machine learning is a plus • 5+ years of professional software engineering experience
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	30JAN15:03:00:00
TALEO INTERNAL CLOSE DATE	30JUL15:02:59:00
TALEO EXTERNAL OPEN DATE	30JAN15:03:00:00
TALEO EXTERNAL CLOSE DATE	03APR15:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2811570

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	2811570
DATE FROM	03/16/2015
VACANCY NAME	IRC2811570
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	15000CZG
MANAGER ID	888377739
MANAGER	Gilbode, Mr Michael (Mike)
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Oracle Public Cloud
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	03/16/2015
INTERNAL POSTING END DATE	09/16/2015
EXTERNAL POSTING START DATE	03/16/2015
EXTERNAL POSTING END DATE	09/16/2015

CONFIDENTIAL

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2811570

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	
TALEO QUALIFICATION EXT 1	The team's mission is to Enable the development of applications taking advantage of our SaaS, PaaS and IaaS. To achieve this the team will provide developers with a unified SDK which will allow them to take advantage of the numerous SaaS, PaaS and IaaS services in our public cloud. The first step toward delivering this Cloud SDK will be to build a service catalog that can host the definition of these APIs. The team is small, in its early stages and the project is brand new. We need bright, creative, self sufficient developers, with flexibility and a good sense of initiatives, and skills in the following areas: - UI development in JavaScript - Security (Oracle Public Cloud, OAuth) - API management (RAML, Swagger 1.0 and 2.0) - Rest services - Java - Cloud development and architecture having worked with Amazon AWS, Azul or Google compute
TALEO QUALIFICATION EXT 2	
TALEO QUALIFICATION INT 1	As part of the Oracle Public Cloud organization you will be working on the infrastructure of the cloud. 1. In a first phase (4 months) the goal is to build a catalog of the Restful Cloud APIs accessible to a given tenant. 2. In a second phase the goal will be to coalesce all the existing APIs (IaaS, PaaS, SaaS) into a coherent set of APIs which will be the foundation of an OPC Cloud SDK. The preferred set of skills will be: - UI development (in JavaScript) - Security - API management - Rest services - Java - Cloud development (Amazon, Azul and Google App and Compute Engine)
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	16MAR15:04:00:00

CONFIDENTIAL

D24

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2811570

Field	Text
TALEO INTERNAL CLOSE DATE	16SEP15:02:59:00
TALEO EXTERNAL OPEN DATE	16MAR15:04:00:00
TALEO EXTERNAL CLOSE DATE	22AUG15:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2919677

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	2919677
DATE FROM	09/22/2015
VACANCY NAME	IRC2919677
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	15001AKB
MANAGER ID	167785
MANAGER	Kamath, Mr Mohan U
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Oracle Internet of Things
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	09/22/2015

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2919677

Field	Text
INTERNAL POSTING END DATE	03/22/2016
EXTERNAL POSTING START DATE	09/22/2015
EXTERNAL POSTING END DATE	03/22/2016
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2919677

Field	Text
TALEO QUALIFICATION EXT 1	<p>Principal Member Technical Staff - IOT Analytics Group Description Our group is engineering big data analytics using leading technologies such as Hadoop, Spark, Kafka etc. in a fast-growing segment known as Industrial Internet of Things (IoT) — allowing customers in manufacturing, transportation, asset management, etc. to improve productivity and safety. The opportunity is compelling for Big Data and IoT enthusiasts — Oracle’s portfolio of products sits on rich data sets and use cases. As a pioneer in developing information management capabilities for the enterprise, Oracle provides developers an opportunity to develop use cases that will be used in production, at scale, in missions where robustness and reliability matter. In addition, Oracle’s technical contributions in this area are highly visible, watched as being trend-setting in the IoT and big data community. Our team comprises of distinguished subject-matter experts in Hadoop, database systems, IoT and real-time distributed systems, giving you a chance to work and learn from among the best. Responsibilities Design, configure, and implement our data systems and stream processing pipelines Work with operations to build and configure maintainable, resource-efficient systems Develop data pipelines using Kafka, Cassandra, Spark Leverage Event processing technologies to deliver real time analytics features Develop a cloud service that would be processing billions of events a day Leverage fast data pipelines for real time analytics on various Oracle SaaS applications Contribute ideas for continually improving the team's productivity, job enjoyment, and code quality. Actively mentor junior developers to develop their technical expertise Have fun engineering software and scalable systems Desired Skills and Experience Production experience with Cassandra, HBase, Spark, MapReduce or similar data stores 5+ years experience with enterprise software and/or PaaS infrastructure Good programming skills in Java or Scala Organized, good attention to details, able to work both independently and with a team Experience in cloud deployments and performance tuning of distributed systems Excellent problem solver, analytic thinker, and quick learner BS or MS in Computer Science or related technical field</p>
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2919677

Field	Text
TALEO QUALIFICATION INT 1	<p>Principal Member Technical Staff - IOT Analytics Group Description Our group is engineering big data analytics using leading technologies such as Hadoop, Spark, Kafka etc. in a fast-growing segment known as Industrial Internet of Things (IoT) — allowing customers in manufacturing, transportation, asset management, etc. to improve productivity and safety. The opportunity is compelling for Big Data and IoT enthusiasts — Oracle’s portfolio of products sits on rich data sets and use cases. As a pioneer in developing information management capabilities for the enterprise, Oracle provides developers an opportunity to develop use cases that will be used in production, at scale, in missions where robustness and reliability matter. In addition, Oracle’s technical contributions in this area are highly visible, watched as being trend-setting in the IoT and big data community. Our team comprises of distinguished subject-matter experts in Hadoop, database systems, IoT and real-time distributed systems, giving you a chance to work and learn from among the best. Responsibilities Design, configure, and implement our data systems and stream processing pipelines Work with operations to build and configure maintainable, resource-efficient systems Develop data pipelines using Kafka, Cassandra, Spark Leverage Event processing technologies to deliver real time analytics features Develop a cloud service that would be processing billions of events a day Leverage fast data pipelines for real time analytics on various Oracle SaaS applications Contribute ideas for continually improving the team's productivity, job enjoyment, and code quality. Actively mentor junior developers to develop their technical expertise Have fun engineering software and scalable systems Desired Skills and Experience Production experience with Cassandra, HBase, Spark, MapReduce or similar data stores 5+ years experience with enterprise software and/or PaaS infrastructure Good programming skills in Java or Scala Organized, good attention to details, able to work both independently and with a team Experience in cloud deployments and performance tuning of distributed systems Excellent problem solver, analytic thinker, and quick learner BS or MS in Computer Science or related technical field</p>
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	22SEP15:03:00:00
TALEO INTERNAL CLOSE DATE	22MAR16:02:59:00
TALEO EXTERNAL OPEN DATE	22SEP15:03:00:00
TALEO EXTERNAL CLOSE DATE	23DEC15:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2969913

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	2969913
DATE FROM	01/06/2015
VACANCY NAME	IRC2969913
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	Replacement
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	1500009Z
MANAGER ID	200651
MANAGER	Arora, Ms Geeta
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	XML and JSON database team
BRIEF POSTING DESCRIPTION	<p>Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. <p style="margin-top:0px;margin-bottom:0px"> Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law. <p style="margin-top:0px;margin-bottom:0px"> <p style="margin-top:0px;margin-bottom:0px"></p>
DETAILED DESCRIPTION	
JOB REQUIREMENTS	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2969913

Field	Text
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	01/06/2015
INTERNAL POSTING END DATE	06/15/2016
EXTERNAL POSTING START DATE	01/06/2015
EXTERNAL POSTING END DATE	06/15/2016
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

CONFIDENTIAL

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2969913

Field	Text
TALEO QUALIFICATION EXT 1	<p>Are you someone who has the knowledge, passion and vision to push the boundaries of large database technology? Do you want to be a part of an elite research and development team at Oracle that is responsible for ushering in cutting edge approaches to big data management, search and information retrieval? Every day at Oracle we are changing the way the world and Enterprises do business by challenging the status quo through the delivery of innovative cloud, infrastructure and data systems solutions. The things we do at Oracle have never been done before and our technology has tremendous impact on millions of people across the globe. At Oracle we believe that all known technical limitations of software architecture need to be addressed, only then can computing technology help businesses realize and capitalize on new opportunities as well as innovate faster. Oracle's Semistructured Database Team is a highly respected and highly sought after team within Oracle b/c our contributions provide the building blocks for storing semi-structured data in Oracle's Database technology. We are an energetic team with a passion for pushing the limits of traditional databases while building a highly scalable platform for efficient processing of semistructured data models (like JSON, XML and other Big Data representations). Our approach to developing native storage, indexing and querying for XML and JSON content for efficient retrieval, has resulted in industry leading performance. The growth in the use of this data has created a need to manage semi-structured data with the same degree of rigor as is needed for other mission-critical data. Semistructured Big data is increasingly pervasive in critical industries, including healthcare and finance. Our team is defining the industry standards for semistructured data and is delivering technology that will keep Oracle ahead of our competitors. We are an elite engineering team looking to add a Principal Engineer with a strong systems background who also shares a passion for solving complex problems in large systems. As a lead contributor to our team, you will be responsible for designing efficient algorithms for storage and retrieval of semistructured data, and making sure it works in a scalable, high performing manner with Oracle database infrastructure. We seek individuals with a strong background in systems level programming, including knowledge of compilers and database internals like query and index processing. Prior knowledge of JSON / XML / XQuery is preferable but not required. For more information, visit http://www.oracle.com/technetwork/database/features/xmlldb/index.html</p>
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 2969913

Field	Text
TALEO QUALIFICATION INT 1	<p>Oracle Semistructured Database Team (XML DB / JSON DB) Come join an energetic team with a passion to push the limits of traditional databases to build a highly scalable platform for efficient processing of semistructured data models, like JSON, XML and other Big Data representations. We are looking for candidates with strong systems background, with a passion for solving complex problems in large systems. We store XML & JSON natively in the Oracle database. In particular, we develop native storage, indexing and querying for XML and JSON content for efficient retrieval. The growth in the use of this data has created a need to manage it with the same degree of rigor as is needed for other mission-critical data. Semistructured Big data is increasingly pervasive in critical industries, including healthcare and finance. We work hard on cutting edge technology, to help define the semistructured standards and stay ahead of our competitors. As a member of our team, you will be responsible for designing efficient algorithms for storage and retrieval of semistructured data, and making sure it works in a scalable, performant manner with Oracle database infrastructure. We seek individuals with a strong background in systems level programming, including knowledge of compilers and database internals like query and index processing. Prior knowledge of JSON / XML / XQuery is preferable but not required. For more information, visit http://www.oracle.com/technetwork/database/features/xmlldb/index.html</p>
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	06JAN15:03:00:00
TALEO INTERNAL CLOSE DATE	06JUL15:02:59:00
TALEO EXTERNAL OPEN DATE	06JAN15:03:00:00
TALEO EXTERNAL CLOSE DATE	07JAN16:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3055861

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3055861
DATE FROM	12/24/2015
VACANCY NAME	IRC3055861
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	15001NBZ
MANAGER ID	887232786
MANAGER	Shishir, Mr Prashant Kumar (Prashant)
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Oracle Public Cloud
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	12/24/2015

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3055861

Field	Text
INTERNAL POSTING END DATE	06/24/2016
EXTERNAL POSTING START DATE	12/24/2015
EXTERNAL POSTING END DATE	06/24/2016
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3055861

Field	Text
TALEO QUALIFICATION EXT 1	<p>Oracle PaaS offerings include providing the world’s best platforms - Oracle Database and Oracle Fusion Middleware, on the Cloud. More information about our organization, Oracle Cloud can be found here: https://cloud.oracle.com/ We are looking for talented individuals who are passionate about developing cutting edge enterprise systems using Java. As a member of the software engineering team, you will participate in the entire software development process: requirements gathering and analysis, working with product management to define product features, designing system architectures, implementing and documenting features, writing/testing/maintaining code, leading cross-team projects, and mentoring other team members. The ideal candidate will demonstrate strong skills in several of the following areas: * Minimum of Bachelor’s degree in relevant discipline and 7+ years of experience * Java Concurrency: multi-threading, locking, synchronization free concurrency implementation, Java concurrency patterns, etc. * Java Design and Abstraction: designing classes and interface, using patterns effectively, documenting APIs clearly, planning for extension, design for testability * Java Tuning and Debugging: general Java tuning, multi-threaded performance consideration, sophisticated online debugging, heap dump analysis, J2EE execution environment debugging * Advanced Java Experience: hierarchical classloaders, runtime classloading, reflection APIs, use of generics in API design * Java + Database: core JDBC experience, ORM persistence frameworks, resource pooling and cleanup, datatype conversion * OS Automation and Integration: scripting (sh, perl, python etc.), Linux/Solaris tool familiarity, OS resource management, job management * Networking: transport protocols, security, load balancing, routing, performance * Specific Application Domain Knowledge: e.g. J2EE, Webservices, SOA architecture, Identity Management, High Availability architectures, scalable design and deployment, virtualization,etc. * Ability to work in an extremely fast paced and challenging, global environment</p>
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3055861

Field	Text
TALEO QUALIFICATION INT 1	<p>Oracle PaaS offerings include providing the world’s best platforms - Oracle Database and Oracle Fusion Middleware, on the Cloud. More information about our organization, Oracle Cloud can be found here: https://cloud.oracle.com/ We are looking for talented individuals who are passionate about developing cutting edge enterprise systems using Java. As a member of the software engineering team, you will participate in the entire software development process: requirements gathering and analysis, working with product management to define product features, designing system architectures, implementing and documenting features, writing/testing/maintaining code, leading cross-team projects, and mentoring other team members. The ideal candidate will demonstrate strong skills in several of the following areas: * Minimum of Bachelor’s degree in relevant discipline and 7+ years of experience * Java Concurrency: multi-threading, locking, synchronization free concurrency implementation, Java concurrency patterns, etc. * Java Design and Abstraction: designing classes and interface, using patterns effectively, documenting APIs clearly, planning for extension, design for testability * Java Tuning and Debugging: general Java tuning, multi-threaded performance consideration, sophisticated online debugging, heap dump analysis, J2EE execution environment debugging * Advanced Java Experience: hierarchical classloaders, runtime classloading, reflection APIs, use of generics in API design * Java + Database: core JDBC experience, ORM persistence frameworks, resource pooling and cleanup, datatype conversion * OS Automation and Integration: scripting (sh, perl, python etc.), Linux/Solaris tool familiarity, OS resource management, job management * Networking: transport protocols, security, load balancing, routing, performance * Specific Application Domain Knowledge: e.g. J2EE, Webservices, SOA architecture, Identity Management, High Availability architectures, scalable design and deployment, virtualization,etc. * Ability to work in an extremely fast paced and challenging, global environment</p>
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	24DEC15:03:00:00
TALEO INTERNAL CLOSE DATE	24JUN16:02:59:00
TALEO EXTERNAL OPEN DATE	24DEC15:03:00:00
TALEO EXTERNAL CLOSE DATE	04DEC16:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3058147

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3058147
DATE FROM	01/23/2016
VACANCY NAME	IRC3058147
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	160002E8
MANAGER ID	893076055
MANAGER	Bhattacharyya, Mr Debraj (Debraj)
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Fusion Release Engineering
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	01/23/2016

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3058147

Field	Text
INTERNAL POSTING END DATE	07/23/2016
EXTERNAL POSTING START DATE	02/04/2016
EXTERNAL POSTING END DATE	07/23/2016
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3058147

Field	Text
TALEO QUALIFICATION EXT 1	<p>SUMMARY: Our dynamic team, Fusion Release Engineering (FRE), is responsible for all aspects of Build and Integration for Fusion Applications, Oracle's next generation Business Applications. The team is also involved with life cycle (build to deploy) as well as code line management. This is an exciting opportunity to apply and develop analytical and technical skills in the fast growing and dynamic field of Build & Release Engineering. This role primarily requires systems operational expertise along with administration and configuration of various tools and frameworks for Build and Release Engineering. To manage the delivery of software systems based on a variety of technology components in a manner which provides the maximum reliability and lowest amount of downtime to our customers.</p> <p>RESPONSIBILITIES: Operations support and maintenance of the build and patch generation system, tools and frameworks for audit, testing and reporting for Java, C-code and Database build. Working closely with Development, Quality Assurance, Operations, Middleware and Product Development teams in order to improve product development standards and processes with administration and configuration of various tools and frameworks for Build and Release Engineering. Designing and developing validation, reporting and build automation utilities. Involvement in product design and development to continually enhance the installation and upgrade of our applications.</p> <p>REQUIRED QUALIFICATIONS: 6+ years' experience in Enterprise Software Development 6+ years' experience with Java/J2EE Technology Stack including Java pattern programming. 6+ years' working with Unix Operating Systems. 6+ years' using Build Tools including Ant, Gradle, and/or Maven. 6+ years' Apache web-servers, Weblogic server including application configuration and administration. 3+ years' experience with Cloud deployments and SaaS models.</p> <p>PREFERRED QUALIFICATIONS Previous technical support, system support or system administration experience. Familiarity with Oracle ADF and SOA framework experience. Must be independent, self-motivated and a team player. Excellent problem solving and debugging skills. Ability to communicate with people of different cultural and language background. Must work well under pressure on multiple projects. The team is also involved with life cycle (build to deploy) as well as code line management. The work is highly technical and includes all aspects of software development from architecture, design to implementation. FRE team members work closely with Fusion Development and Fusion Middleware teams, as well as numerous other teams across Oracle to ensure the highest possible quality of delivered code through the specification and implementation of standards and processes. The team provides training, education and support to the development community on the build infrastructure.</p>

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3058147

Field	Text
TALEO QUALIFICATION EXT 2	
TALEO QUALIFICATION INT 1	<p>Our dynamic team, Fusion Release Engineering (FRE), is responsible for all aspects of Build and Integration for Fusion Applications, Oracle's next generation Business Applications. Responsibilities include operations support and maintenance of the build and patch generation system, tools and frameworks for audit, testing and reporting for Java, C-code and Database build. The team is also involved with life cycle (build to deploy) as well as code line management. The work is highly technical and includes all aspects of software development from architecture, design to implementation. FRE team members work closely with Fusion Development and Fusion Middleware teams, as well as numerous other teams across Oracle to ensure the highest possible quality of delivered code through the specification and implementation of standards and processes. The team provides training, education and support to the development community on the build infrastructure. This is an exciting opportunity to apply and develop analytical and technical skills in the fast growing and dynamic field of Build & Release Engineering. This role primarily requires systems operational expertise along with administration and configuration of various tools and frameworks for Build and Release Engineering. To manage the delivery of software systems based on a variety of technology components in a manner which provides the maximum reliability and lowest amount of downtime to our customers, your responsibilities will include: 1) Working closely with Development, Quality Assurance, Operations, middle-ware and Product Development teams in order to improve product development standards and processes. 2) Designing and developing validation, reporting and build automation utilities 3) Involvement in product design and development to continually enhance the installation and upgrade of our applications</p> <p>Technical Skills</p> <ol style="list-style-type: none"> 1. Excellent problem solving and debugging skills 2. Strong Unix operating system skills. <p>Previous technical support, system support or system administration experience is a plus</p> <ol style="list-style-type: none"> 3. Experience with Ant/Gradle 4. Experience Apache web-servers, Weblogic server including application configuration and administration 5. Familiarity with Cloud deployments and SaaS models 6. Programming experience in Java/ J2EE Technology Stack 7. Java pattern programming is highly desirable 8. Familiarity with Oracle ADF and SOA framework experience is desirable. <p>Soft Skills</p> <ol style="list-style-type: none"> 1. Must be independent, self-motivated and a team player 2. Ability to communicate with people of different cultural and language background 3. Must work well under pressure on multiple projects.
TALEO QUALIFICATION INT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3058147

Field	Text
TALEO INTERNAL OPEN DATE	23JAN16:03:00:00
TALEO INTERNAL CLOSE DATE	23JUL16:02:59:00
TALEO EXTERNAL OPEN DATE	.
TALEO EXTERNAL CLOSE DATE	.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3101600

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3101600
DATE FROM	02/26/2016
VACANCY NAME	IRC3101600
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	Replacement
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	160007GL
MANAGER ID	93148
MANAGER	Kee, Ms Helena P Y
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Test Development
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will assist in defining and developing software for tasks associated with the developing, debugging or designing of software applications or operating systems. Provide technical leadership to other software developers. Specify, design and implement modest changes to existing software architecture to meet changing needs. Duties and tasks are varied and complex needing independent judgment. Fully competent in own area of expertise. May have project lead role and or supervise lower level personnel. BS or MS degree or equivalent experience relevant to functional area. 4 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	02/26/2016

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3101600

Field	Text
INTERNAL POSTING END DATE	08/26/2016
EXTERNAL POSTING START DATE	02/26/2016
EXTERNAL POSTING END DATE	08/26/2016
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will assist in defining and developing software for tasks associated with the developing, debugging or designing of software applications or operating systems. Provide technical leadership to other software developers. Specify, design and implement modest changes to existing software architecture to meet changing needs. Duties and tasks are varied and complex needing independent judgment. Fully competent in own area of expertise. May have project lead role and or supervise lower level personnel. BS or MS degree or equivalent experience relevant to functional area. 4 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will assist in defining and developing software for tasks associated with the developing, debugging or designing of software applications or operating systems. Provide technical leadership to other software developers. Specify, design and implement modest changes to existing software architecture to meet changing needs. Duties and tasks are varied and complex needing independent judgment. Fully competent in own area of expertise. May have project lead role and or supervise lower level personnel. BS or MS degree or equivalent experience relevant to functional area. 4 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3101600

Field	Text
TALEO QUALIFICATION EXT 1	<p>Database Test Development, Server Technology The Database Test Development Team has an opportunity for a highly motivated self starter who will collaborate and contribute to emerging products in a fast paced environment. Our team prepares automated tests and reviews results when the tests are in place, for a very dynamic, constantly changing product and consequently, test verification is updated as well. The persons in this team are comprised of diverse individuals located in the Americas and Asia, leading to interesting, effective team collaboration. We prefer a person with an advanced degree in Computer Science or related degree with 4 or more years in software or test development in progressively challenging projects, knowledgeable in Linux/UNIX. Database fundamentals and experience is desirable. If you fit these criteria, you have the mix to be very successful with our projects, do drop your resume!</p> <p>Department Description The Database Test Development Group is responsible for Oracle's RDBMS product that includes the recently announced Zero Data Loss Recovery Appliance. We are also responsible for the Oracle Exadata Database Machine that delivers extreme performance and scalability for all database applications, consolidation of mixed database workloads, and many more technical advances. Our test development engineers challenge is to code applications to ensure the high quality of these complex products. This presents an unique opportunity to work with and become an expert on various premium and diverse features such as the Database In Memory Option, Automated Storage Management (ASM), Real Application Clusters (RAC) and RDS/Infiniband technology to name a few, in addition to mastery over the Oracle Database itself. Our group handles automated testing for right from the network layer to storage to imaging/installation/software upgrades right to every single Oracle Database feature. You gain proficiency in scripting (perl/shell), OS knowledge and programming with C/Java and/or PLSQL/SQL and exposure to a wide range of technologies like Security, XML, Real Application Clusters, Data Access, Data Warehousing, Grid Computing, Enterprise Replication, Advanced Queuing, Messaging, Data Storage, Backup and Recovery, High Availability, COM+, .Net, and more. You will be interacting with a highly technical team here in the US, China, Mexico and finally in India where we have significant presence. In this environment, you will be challenged, meet people from various cultures and collaborate and inventive to resolve and implement the many non-routine testing challenges that we face. You will have the opportunity to thrive and grow your skills in database technologies and participate in new functionalities and products.</p> <p>Job Responsibilities We design, develop then debug test cases for new and existing functionality, with a view to product high quality for the Oracle server manageability.</p> <p>Candidate Profile</p> <ol style="list-style-type: none"> 1. Proficiency in Linux/Unix/Windows OS environments 2. Proficiency

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3101600

Field	Text
	in shell scripting, perl desirable 3. Oracle Database knowledge or experience, SQL, PL/SQL highly desirable 4. Advanced CS Degree preferred.
TALEO QUALIFICATION EXT 2	
TALEO QUALIFICATION INT 1	This team prepares automated tests and reviews results when the tests are in place, for a very dynamic, constantly changing product where the functionality is constantly being enhanced, and consequently, test verification is constantly updated as well. The persons in this team are comprised of diverse individuals located in the Americas and Asia, leading to interesting, effective team collaboration. We prefer a person with a BS or MS in Computer Science with a minimum of 4 years of related experience in software development or testing.
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	26FEB16:03:00:00
TALEO INTERNAL CLOSE DATE	26AUG16:02:59:00
TALEO EXTERNAL OPEN DATE	.
TALEO EXTERNAL CLOSE DATE	.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3113591

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3113591
DATE FROM	04/14/2016
VACANCY NAME	IRC3113591
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	16000F3H
MANAGER ID	105317
MANAGER	Hackel, Mr Kurt C
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Private Cloud Appliance
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	04/14/2016
INTERNAL POSTING END DATE	10/14/2016
EXTERNAL POSTING START DATE	04/14/2016
EXTERNAL POSTING END DATE	10/14/2016

CONFIDENTIAL

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3113591

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	
TALEO QUALIFICATION EXT 1	The Oracle Virtual Compute Appliance product development team is a fast-paced, multi-faceted engineering organization. As part of Oracle's Engineered Systems portfolio, product development merges server, storage, networking, and software for a unified, turnkey solution for customers looking for rapid cloud deployment. Taking advantage of existing Oracle hardware and virtualization software, the team focuses on defining more value and higher quality with additional software features. Experience required - 5+ years hands-on experience developing enterprise software- Skilled in Python, Java or similar languages - Linux networking, SAN/NAS storage configuration, infiniband networking, virtual machine administration highly desirable - Working experience on Linux and/or Solaris - Understanding of Cloud computing, virtualization, and hypervisors - Experience in web services, XML, REST, and SNMP a highly desired plus - OracleDB and SQL knowledge a plus - Additional programming languages such as Perl, Tcl/expect, BASH a plus - Experience with test automation a plus - Demonstrated excellent communication skills - Ability to multi-task - Willingness to experiment and take risks - Willingness to work in a fluid environment - Operational and/or development experience with Openstack highly desirable
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3113591

Field	Text
TALEO QUALIFICATION INT 1	The Oracle Virtual Compute Appliance product development team is a fast-paced, multi-faceted engineering organization. As part of Oracle's Engineered Systems portfolio, product development merges server, storage, networking, and software for a unified, turnkey solution for customers looking for rapid cloud deployment. Taking advantage of existing Oracle hardware and virtualization software, the team focuses on defining more value and higher quality with additional software features. Experience required - 5+ years hands-on experience developing enterprise software- Skilled in Python, Java or similar languages - Linux networking, SAN/NAS storage configuration, infiniband networking, virtual machine administration highly desirable - Working experience on Linux and/or Solaris - Understanding of Cloud computing, virtualization, and hypervisors - Experience in web services, XML, REST, and SNMP a highly desired plus - OracleDB and SQL knowledge a plus - Additional programming languages such as Perl, Tcl/expect, BASH a plus - Experience with test automation a plus - Demonstrated excellent communication skills - Ability to multi-task - Willingness to experiment and take risks - Willingness to work in a fluid environment - Operational and/or development experience with Openstack highly desirable
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	14APR16:03:00:00
TALEO INTERNAL CLOSE DATE	14OCT16:02:59:00
TALEO EXTERNAL OPEN DATE	14APR16:03:00:00
TALEO EXTERNAL CLOSE DATE	01JAN17:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3131826

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3131826
DATE FROM	04/13/2016
VACANCY NAME	IRC3131826
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	16000ER6
MANAGER ID	892416992
MANAGER	Krishnan, Veeraraghavan (Raghavan)
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Cloud Operations
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	04/13/2016

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3131826

Field	Text
INTERNAL POSTING END DATE	10/13/2016
EXTERNAL POSTING START DATE	04/13/2016
EXTERNAL POSTING END DATE	10/13/2016
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

Vacancy ID: 3131826

Field	Text
TALEO QUALIFICATION EXT 1	<p>Oracle Public Cloud is experiencing significant growth resulting in rapid expansion of the underlying network infrastructure to support that growth. We are looking for software engineers with development experience in multiple areas including virtualized networks, network /infrastructure automation, SDN controllers and associated tools and technologies. As part of a global team of network architects, engineers and software developers, you will have the opportunity to create and deliver fully automated datacenter and backbone networks to support cloud scale applications . You will be building software for controlling distributed network services, multi-level abstractions,complete automation of configurations, deployment and management of our cloud network infrastructure extending from the core datacenter to global backbone networks. In collaboration with the network architects, you will design and implement the network models to support the rapid growth, monitoring, capacity planning and provide well designed templates and tools to deliver network services as code. You will create standards and repeatable templates for device level configuration and expose them as reusable services by higher layers of orchestration. The job additionally involves converting traditional modes of CLI based network configuration into automated services driven by software. There are no dearth of challenges and opportunities are plentiful to apply your software engineering knowledge in creating the next generation of software defined networks. Qualifications: - B.S. in Computer Science, Electrical Engineering or equivalent experience. - Strong software engineering/development background with at least 5+ years experience in large distributed systems, infrastructure or network automation and Web services - Proficiency at programming in Python, Java. - Well versed in developments in Software Defined Networking and controllers like OpenDaylight, openvSwitch - Strong knowledge of API design such as Netconf, RESTful API as well as configuration management tools such as CHEF, Ansible - Good knowledge of data models, relational databases, NOSQL and a general understanding of cloud development principals such as loose coupling, separation of services, micro services - Must have familiarity with load balancing platforms and technologies, firewall platforms, switching and routing platforms - Cisco, Juniper, F5 and other open source alternatives - Knowledge of IP Networking, datacenter network technologies, packet forwarding architectures and internet routing protocols (BGP, GRE, IPSec, VxLAN, Dot1Q, QinQ, 40G/100G futures, DNS, HTTP, netflow/Jflow etc) highly desirable. - Good understanding of software development tools such as SCMs, automated build systems, test systems and harnesses, Continuous Integration/ Delivery/Deployment. - Must have strong debugging skills. - Experience and desire to</p>

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3131826

Field	Text
	write clean, testable code with automated tests - Strong focus on complete automation and delivering highly available solutions for highly demanding requirements (devops). - CCIE / JNCIE certifications or equivalents are an added advantage - willingness to adopt and adapt to new technologies. - Ability to accomplish goals independently - highly result oriented. - A strong team player with excellent written and verbal communication skills.
TALEO QUALIFICATION EXT 2	

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3131826

Field	Text
TALEO QUALIFICATION INT 1	<p>Oracle Public Cloud is experiencing significant growth resulting in rapid expansion of the underlying network infrastructure to support that growth. We are looking for software engineers with development experience in multiple areas including virtualized networks, network /infrastructure automation, SDN controllers and associated tools and technologies. As part of a global team of network architects, engineers and software developers, you will have the opportunity to create and deliver fully automated datacenter and backbone networks to support cloud scale applications . You will be building software for controlling distributed network services, multi-level abstractions,complete automation of configurations, deployment and management of our cloud network infrastructure extending from the core datacenter to global backbone networks. In collaboration with the network architects, you will design and implement the network models to support the rapid growth, monitoring, capacity planning and provide well designed templates and tools to deliver network services as code. You will create standards and repeatable templates for device level configuration and expose them as reusable services by higher layers of orchestration. The job additionally involves converting traditional modes of CLI based network configuration into automated services driven by software. There are no dearth of challenges and opportunities are plentiful to apply your software engineering knowledge in creating the next generation of software defined networks. Qualifications: - B.S. in Computer Science, Electrical Engineering or equivalent experience. - Strong software engineering/development background with at least 5+ years experience in large distributed systems, infrastructure or network automation and Web services - Proficiency at programming in Python, Java. - Well versed in developments in Software Defined Networking and controllers like OpenDaylight, openvSwitch - Strong knowledge of API design such as Netconf, RESTful API as well as configuration management tools such as CHEF, Ansible - Good knowledge of data models, relational databases, NOSQL and a general understanding of cloud development principals such as loose coupling, separation of services, micro services - Must have familiarity with load balancing platforms and technologies, firewall platforms, switching and routing platforms - Cisco, Juniper, F5 and other open source alternatives - Knowledge of IP Networking, datacenter network technologies, packet forwarding architectures and internet routing protocols (BGP, GRE, IPSec, VxLAN, Dot1Q, QinQ, 40G/100G futures, DNS, HTTP, netflow/Jflow etc) highly desirable. - Good understanding of software development tools such as SCMs, automated build systems, test systems and harnesses, Continuous Integration/ Delivery/Deployment. - Must have strong debugging skills. - Experience and desire to</p>

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3131826

Field	Text
	write clean, testable code with automated tests - Strong focus on complete automation and delivering highly available solutions for highly demanding requirements (devops). - CCIE / JNCIE certifications or equivalents are an added advantage - willingness to adopt and adapt to new technologies. - Ability to accomplish goals independently - highly result oriented. - A strong team player with excellent written and verbal communication skills.
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	13APR16:03:00:00
TALEO INTERNAL CLOSE DATE	13OCT16:02:59:00
TALEO EXTERNAL OPEN DATE	13APR16:03:00:00
TALEO EXTERNAL CLOSE DATE	03OCT16:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3133629

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3133629
DATE FROM	04/13/2016
VACANCY NAME	IRC3133629
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	16000ER5
MANAGER ID	892416992
MANAGER	Krishnan, Veeraraghavan (Raghavan)
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Cloud Operations
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	04/13/2016

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3133629

Field	Text
INTERNAL POSTING END DATE	10/13/2016
EXTERNAL POSTING START DATE	04/13/2016
EXTERNAL POSTING END DATE	10/13/2016
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION EXT 2	
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 2	

Vacancy ID: 3133629

Field	Text
TALEO QUALIFICATION EXT 1	<p>Oracle Public Cloud is experiencing significant growth resulting in rapid expansion of the underlying network infrastructure to support that growth. We are looking for software engineers with development experience in multiple areas including virtualized networks, network /infrastructure automation, SDN controllers and associated tools and technologies. As part of a global team of network architects, engineers and software developers, you will have the opportunity to create and deliver fully automated datacenter and backbone networks to support cloud scale applications . You will be building software for controlling distributed network services, multi-level abstractions,complete automation of configurations, deployment and management of our cloud network infrastructure extending from the core datacenter to global backbone networks. In collaboration with the network architects, you will design and implement the network models to support the rapid growth, monitoring, capacity planning and provide well designed templates and tools to deliver network services as code. You will create standards and repeatable templates for device level configuration and expose them as reusable services by higher layers of orchestration. The job additionally involves converting traditional modes of CLI based network configuration into automated services driven by software. There are no dearth of challenges and opportunities are plentiful to apply your software engineering knowledge in creating the next generation of software defined networks. Qualifications: - B.S. in Computer Science, Electrical Engineering or equivalent experience. - Strong software engineering/development background with at least 5+ years experience in large distributed systems, infrastructure or network automation and Web services - Proficiency at programming in Python, Java. - Well versed in developments in Software Defined Networking and controllers like OpenDaylight, openvSwitch - Strong knowledge of API design such as Netconf, RESTful API as well as configuration management tools such as CHEF, Ansible - Good knowledge of data models, relational databases, NOSQL and a general understanding of cloud development principals such as loose coupling, separation of services, micro services - Must have familiarity with load balancing platforms and technologies, firewall platforms, switching and routing platforms - Cisco, Juniper, F5 and other open source alternatives - Knowledge of IP Networking, datacenter network technologies, packet forwarding architectures and internet routing protocols (BGP, GRE, IPSec, VxLAN, Dot1Q, QinQ, 40G/100G futures, DNS, HTTP, netflow/Jflow etc) highly desirable. - Good understanding of software development tools such as SCMs, automated build systems, test systems and harnesses, Continuous Integration/ Delivery/Deployment. - Must have strong debugging skills. - Experience and desire to</p>

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3133629

Field	Text
	write clean, testable code with automated tests - Strong focus on complete automation and delivering highly available solutions for highly demanding requirements (devops). - CCIE / JNCIE certifications or equivalents are an added advantage - willingness to adopt and adapt to new technologies. - Ability to accomplish goals independently - highly result oriented. - A strong team player with excellent written and verbal communication skills.
TALEO QUALIFICATION EXT 2	

Vacancy ID: 3133629

Field	Text
TALEO QUALIFICATION INT 1	<p>Oracle Public Cloud is experiencing significant growth resulting in rapid expansion of the underlying network infrastructure to support that growth. We are looking for software engineers with development experience in multiple areas including virtualized networks, network /infrastructure automation, SDN controllers and associated tools and technologies. As part of a global team of network architects, engineers and software developers, you will have the opportunity to create and deliver fully automated datacenter and backbone networks to support cloud scale applications . You will be building software for controlling distributed network services, multi-level abstractions,complete automation of configurations, deployment and management of our cloud network infrastructure extending from the core datacenter to global backbone networks. In collaboration with the network architects, you will design and implement the network models to support the rapid growth, monitoring, capacity planning and provide well designed templates and tools to deliver network services as code. You will create standards and repeatable templates for device level configuration and expose them as reusable services by higher layers of orchestration. The job additionally involves converting traditional modes of CLI based network configuration into automated services driven by software. There are no dearth of challenges and opportunities are plentiful to apply your software engineering knowledge in creating the next generation of software defined networks. Qualifications: - B.S. in Computer Science, Electrical Engineering or equivalent experience. - Strong software engineering/development background with at least 5+ years experience in large distributed systems, infrastructure or network automation and Web services - Proficiency at programming in Python, Java. - Well versed in developments in Software Defined Networking and controllers like OpenDaylight, openvSwitch - Strong knowledge of API design such as Netconf, RESTful API as well as configuration management tools such as CHEF, Ansible - Good knowledge of data models, relational databases, NOSQL and a general understanding of cloud development principals such as loose coupling, separation of services, micro services - Must have familiarity with load balancing platforms and technologies, firewall platforms, switching and routing platforms - Cisco, Juniper, F5 and other open source alternatives - Knowledge of IP Networking, datacenter network technologies, packet forwarding architectures and internet routing protocols (BGP, GRE, IPSec, VxLAN, Dot1Q, QinQ, 40G/100G futures, DNS, HTTP, netflow/Jflow etc) highly desirable. - Good understanding of software development tools such as SCMs, automated build systems, test systems and harnesses, Continuous Integration/ Delivery/Deployment. - Must have strong debugging skills. - Experience and desire to</p>

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3133629

Field	Text
	write clean, testable code with automated tests - Strong focus on complete automation and delivering highly available solutions for highly demanding requirements (devops). - CCIE / JNCIE certifications or equivalents are an added advantage - willingness to adopt and adapt to new technologies. - Ability to accomplish goals independently - highly result oriented. - A strong team player with excellent written and verbal communication skills.
TALEO QUALIFICATION INT 2	
TALEO INTERNAL OPEN DATE	13APR16:03:00:00
TALEO INTERNAL CLOSE DATE	13OCT16:02:59:00
TALEO EXTERNAL OPEN DATE	13APR16:03:00:00
TALEO EXTERNAL CLOSE DATE	03AUG16:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3151622

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3151622
DATE FROM	04/05/2016
VACANCY NAME	IRC3151622
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	16000DIK
MANAGER ID	235243
MANAGER	Liang, Mr Chao (Chao)
ORGANIZATION NAME	Oracle
DEPARTMENT DESCRIPTION	Database Security
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	04/05/2016
INTERNAL POSTING END DATE	04/30/2017
EXTERNAL POSTING START DATE	04/11/2016
EXTERNAL POSTING END DATE	04/30/2017

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3151622

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender
TALEO DESCRIPTION EXT 2	gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender
TALEO DESCRIPTION INT 2	gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO QUALIFICATION EXT 1	We are looking for a talented UI Designer to create amazing user experiences for Oracle Cloud Services for data security. The ideal candidate should have an eye for clean and artful design, possess superior UI development skills and be able to translate high-level requirements into interaction flows and artifacts, and transform them into beautiful, intuitive, and functional user interfaces. Responsibilities - Collaborate with product management and development to define and implement innovative solutions for the product direction, visuals and experience - Execute all visual design stages from concept to final hand-off to engineering - Conceptualize original ideas that bring simplicity and user friendliness to complex design roadblocks - Create wire-frames, storyboards, user flows, process flows to effectively communicate interaction and design ideas - Implement application front-end interface and integrate with back-end functionality - Establish and promote design guidelines
TALEO QUALIFICATION EXT 2	Best practices and standards Requirements:- Proven UI experience and demonstrable UI design skills - Solid experience in creating wire-frames, storyboards, user flows, process flows - Proficiency in visual design and wire-framing tools - Proficiency in HTML5, CSS, and JavaScript and Java - Excellent visual design skills with sensitivity to user-system interaction - Proficiency in J2EE application development - Proven ability to build UI components for complex software products - Ability to solve problems creatively and effectively - Up-to-date with the latest UI trends, techniques, and technologies - BS/MS in computer science and engineering, human-computer interaction or related

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3151622

Field	Text
TALEO QUALIFICATION INT 1	We are looking for a talented UI Designer to create amazing user experiences for Oracle Cloud Services for data security. The ideal candidate should have an eye for clean and artful design, possess superior UI development skills and be able to translate high-level requirements into interaction flows and artifacts, and transform them into beautiful, intuitive, and functional user interfaces. Responsibilities - Collaborate with product management and development to define and implement innovative solutions for the product direction, visuals and experience - Execute all visual design stages from concept to final hand-off to engineering - Conceptualize original ideas that bring simplicity and user friendliness to complex design roadblocks - Create wire-frames, storyboards, user flows, process flows to effectively communicate interaction and design ideas - Implement application front-end interface and integrate with back-end functionality - Establish and promote design guidelines
TALEO QUALIFICATION INT 2	es, best practices and standards Requirements:- Proven UI experience and demonstrable UI design skills - Solid experience in creating wire-frames, storyboards, user flows, process flows - Proficiency in visual design and wire-framing tools - Proficiency in HTML5, CSS, and JavaScript and Java - Excellent visual design skills with sensitivity to user-system interaction - Proficiency in J2EE application development - Proven ability to build UI components for complex software products - Ability to solve problems creatively and effectively - Up-to-date with the latest UI trends, techniques, and technologies - BS/MS in computer science and engineering, human-computer interaction or related
TALEO INTERNAL OPEN DATE	06APR16:03:00:00
TALEO INTERNAL CLOSE DATE	06OCT16:02:59:00
TALEO EXTERNAL OPEN DATE	.
TALEO EXTERNAL CLOSE DATE	.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3645535

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3645535
DATE FROM	12/21/2017
VACANCY NAME	IRC3645535
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	Replacement
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	17001GVI
MANAGER ID	892318712
MANAGER	Mayala, Tulsi Ram
ORGANIZATION NAME	Oracle
DEPARTMENT DESCRIPTION	
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	12/21/2017
INTERNAL POSTING END DATE	06/21/2018
EXTERNAL POSTING START DATE	12/21/2017
EXTERNAL POSTING END DATE	06/21/2018

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3645535

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gend
TALEO DESCRIPTION EXT 2	er identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gend
TALEO DESCRIPTION INT 2	er identity, disability and protected veterans status or any other characteristic protected by law.
TALEO QUALIFICATION EXT 1	The Team and Product Identity Cloud Service (IDCS) is a strategic focus for Oracle. IDCS is uniquely placed among Oracle's new Cloud Services. It is a core infrastructure of the next generation Oracle Public Cloud since it is the Identity and Access infrastructure for all the IaaS, PaaS and SaaS services. It is also a key business service in Oracle's PaaS Services. Oracle has been a market leader in the Identity and Access Management space and IDCS is Oracle's next generation cloud based IAM platform The Role We are seeking highly accomplished versatile software professionals who can be part of the Identity Cloud Service (IDCS) Infrastructure Team. If you are self-driven and have a great combination of coding skills, design skills and have been part of large enterprise class software product development teams on Java and Cloud, have worked on development of services deployed on the popular Cloud platforms like Oracle Public Cloud, Amazon Web services or Azure then this position
TALEO QUALIFICATION EXT 2	is definitely a fit for you. You will be part of the team that is responsible for rolling out the IDCS product in the Oracle Public Cloud (OPC). You will integrate IDCS with the other infrastructure pieces to provide the core foundation for the next generation Oracle Public Cloud Infrastructure. You will also work with Oracle's IaaS services that we leverage for IDCS platform. About the Successful Candidate The successful candidate is self-motivated, progressive software professional with 7 years of industry experience or more, someone who can deal with complex problems without supervision. The candidate should have a learning mindset and should be a team player that is able to work with both internal and external teams. Bachelors or Master's degree in Computer Science or a related field is desired. Responsibilities You will be responsible for building infrastructure software for a modern autonomous cloud service at scale with agility. You will be writing provisionin

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3645535

Field	Text
TALEO QUALIFICATION INT 1	<p>The Team and Product Identity Cloud Service (IDCS) is a strategic focus for Oracle. IDCS is uniquely placed among Oracle's new Cloud Services. It is a core infrastructure of the next generation Oracle Public Cloud since it is the Identity and Access infrastructure for all the IaaS, PaaS and SaaS services. It is also a key business service in Oracle's PaaS Services. Oracle has been a market leader in the Identity and Access Management space and IDCS is Oracle's next generation cloud based IAM platform. The Role We are seeking highly accomplished versatile software professionals who can be part of the Identity Cloud Service (IDCS) Infrastructure Team. If you are self-driven and have a great combination of coding skills, design skills and have been part of large enterprise class software product development teams on Java and Cloud, have worked on development of services deployed on the popular Cloud platforms like Oracle Public Cloud, Amazon Web services or Azure then this position</p>
TALEO QUALIFICATION INT 2	<p>is definitely a fit for you. You will be part of the team that is responsible for rolling out the IDCS product in the Oracle Public Cloud (OPC). You will integrate IDCS with the other infrastructure pieces to provide the core foundation for the next generation Oracle Public Cloud Infrastructure. You will also work with Oracle's IaaS services that we leverage for IDCS platform. About the Successful Candidate The successful candidate is self-motivated, progressive software professional with 7 years of industry experience or more, someone who can deal with complex problems without supervision. The candidate should have a learning mindset and should be a team player that is able to work with both internal and external teams. Bachelors or Master's degree in Computer Science or a related field is desired. Responsibilities You will be responsible for building infrastructure software for a modern autonomous cloud service at scale with agility. You will be writing provisionin</p>
TALEO INTERNAL OPEN DATE	21DEC17:03:00:00
TALEO INTERNAL CLOSE DATE	21JUN18:02:59:00
TALEO EXTERNAL OPEN DATE	21DEC17:03:00:00
TALEO EXTERNAL CLOSE DATE	22FEB18:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3755862

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3755862
DATE FROM	04/05/2018
VACANCY NAME	IRC3755862
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	18000DU1
MANAGER ID	889002748
MANAGER	Cengiz, Yasin
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Oracle Fusion HCM Cloud Applications
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	04/05/2018
INTERNAL POSTING END DATE	10/05/2018
EXTERNAL POSTING START DATE	04/05/2018
EXTERNAL POSTING END DATE	10/05/2018

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3755862

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender
TALEO DESCRIPTION EXT 2	gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender
TALEO DESCRIPTION INT 2	gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO QUALIFICATION EXT 1	The Oracle Fusion HCM Cloud Applications team is working on some of the most exciting technologies, implementing massively scalable reasoning, applying AI and analysis techniques to reason over large amounts of data. Our reasoning engine has its own implementation of MapReduce for distributed reasoning. We also work on data collection and connectors to Social Media Sources such as Facebook, LinkedIn, and Twitter for HCM recruitment applications. We integrate with Wearable Devices for another HCM product. Our group consists of approximately 300 engineers, with published authors, W3C members, field experts, patent-holders, and many graduates of elite schools such as MIT, USC, Stanford, and CMU. If you would like to have an impact on the Cloud Applications market then this position could be a fit. Responsibilities: * Design, develop and debug Oracle Fusion HCM Cloud Applications * Participate in the full life-cycle delivery of complex and innovative software applicati
TALEO QUALIFICATION EXT 2	ons * Write clean and effective code and pay good amount of attention to the code quality * Research new technologies and techniques as needed Qualifications/Skills: * BS or MS degree in Computer Science or related field * Strong skills in core Java and writing high performance Object-Oriented Programming code * Strong understanding of Object-Oriented Programming, SOLID principles and Design Patterns * Excellent problem solving skills * Experience with modern development tools (Eclipse, GIT, etc.) * Basic understanding of distributed systems, pattern recognition algorithms, and AI * Some background in algorithmic design and mathematics is nice to have * AI (Artificial Intelligence), ML (Machine Learning), and NLP (Natural Language Processing) experience is nice to have

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3755862

Field	Text
TALEO QUALIFICATION INT 1	The Oracle Fusion HCM Cloud Applications team is working on some of the most exciting technologies, implementing massively scalable reasoning, applying AI and analysis techniques to reason over large amounts of data. Our reasoning engine has its own implementation of MapReduce for distributed reasoning. We also work on data collection and connectors to Social Media Sources such as Facebook, LinkedIn, and Twitter for HCM recruitment applications. We integrate with Wearable Devices for another HCM product. Our group consists of approximately 300 engineers, with published authors, W3C members, field experts, patent-holders, and many graduates of elite schools such as MIT, USC, Stanford, and CMU. If you would like to have an impact on the Cloud Applications market then this position could be a fit. Responsibilities: * Design, develop and debug Oracle Fusion HCM Cloud Applications * Participate in the full life-cycle delivery of complex and innovative software applicati
TALEO QUALIFICATION INT 2	ons * Write clean and effective code and pay good amount of attention to the code quality * Research new technologies and techniques as needed Qualifications/Skills: * BS or MS degree in Computer Science or related field * Strong skills in core Java and writing high performance Object-Oriented Programming code * Strong understanding of Object-Oriented Programming, SOLID principles and Design Patterns * Excellent problem solving skills * Experience with modern development tools (Eclipse, GIT, etc.) * Basic understanding of distributed systems, pattern recognition algorithms, and AI * Some background in algorithmic design and mathematics is nice to have * AI (Artificial Intelligence), ML (Machine Learning), and NLP (Natural Language Processing) experience is nice to have
TALEO INTERNAL OPEN DATE	05APR18:03:00:00
TALEO INTERNAL CLOSE DATE	05OCT18:02:59:00
TALEO EXTERNAL OPEN DATE	05APR18:03:00:00
TALEO EXTERNAL CLOSE DATE	07OCT18:02:59:00

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3803639

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3803639
DATE FROM	08/02/2018
VACANCY NAME	IRC3803639
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	18000XWZ
MANAGER ID	892452696
MANAGER	Ousterhout, Rita Hanson
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Corporate Architecture
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle will consider for employment qualified applicants with criminal histories in a manner consistent with the requirements of San Francisco's Fair Chance Ordinance. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	08/02/2018
INTERNAL POSTING END DATE	02/01/2019
EXTERNAL POSTING START DATE	08/02/2018
EXTERNAL POSTING END DATE	02/01/2019

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Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3803639

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle will consider for employment qualified applicants with criminal histories in a manner consistent with the requirements of San Francisco's Fair Chance Ordinance. Oracle is an Equal Employment Oppor
TALEO DESCRIPTION EXT 2	tunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle will consider for employment qualified applicants with criminal histories in a manner consistent with the requirements of San Francisco's Fair Chance Ordinance. Oracle is an Equal Employment Oppor
TALEO DESCRIPTION INT 2	tunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO QUALIFICATION EXT 1	Linux Tools Developer Oracle's Linux kernel team seeks a tools developer to help with Linux kernel development. The role is intended to enhance or create existing tools which help Linux kernel developers to do their jobs. A successful candidate has expert level scripting and automation skills in addition to strong active listening skills. You should expect to listen to user concerns and to anticipate and develop creative solutions. Key qualifications include: - Self-motivated individual who can "think outside the box" and deliver creative solutions - Ability to collect requirements from developers, provide prototypes, and incorporate feedback - Experience developing tools on Linux platforms. Experience using and administering Linux systems is a plus. - Advanced level understanding of git source control - Strong experience with scripting languages including Perl, Bash, Python, and node.js - Experience building or supporting web ap

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3803639

Field	Text
TALEO QUALIFICATION EXT 2	<p>plications (React, Angular, PHP) is a plus - Familiarity with C is a plus - Familiarity with Linux community and kernel development process - Excellent interpersonal skills - Excellent problem solving, critical thinking, and communication skills - Location: San Francisco Bay area Group Description: Oracle's Linux team develops on and contributes to upstream Linux to support our engineered system as well as Oracle's Cloud infrastructure. Our team patches and enhances the Linux kernel and promotes the adoption of Linux at Oracle and in the industry in general. Developers in this role are expected to be active contributors to upstream Linux. Through our experience with engineered systems such as the flagship Exadata, we created an additional kernel option, the Unbreakable Enterprise Kernel. Supporting engineered systems required us to be more innnovative and modern with the Linux kernel, and UEK is a Linux kernel which combines mainline Linux</p>
TALEO QUALIFICATION INT 1	<p>Linux Tools Developer Oracle's Linux kernel team seeks a tools developer to help with Linux kernel development. The role is intended to enhance or create existing tools which help Linux kernel developers to do their jobs. A successful candidate has expert level scripting and automation skills in addition to strong active listening skills. You should expect to listen to user concerns and to anticipate and develop creative solutions. Key qualifications include: - Self-motivated individual who can "think outside the box" and deliver creative solutions - Ability to collect requirements from developers, provide prototypes, and incorporate feedback - Experience developing tools on Linux platforms. Experience using and administering Linux systems is a plus. - Advanced level understanding of git source control - Strong experience with scripting languages including Perl, Bash, Python, and node.js - Experience building or supporting web ap</p>
TALEO QUALIFICATION INT 2	<p>plications (React, Angular, PHP) is a plus - Familiarity with C is a plus - Familiarity with Linux community and kernel development process - Excellent interpersonal skills - Excellent problem solving, critical thinking, and communication skills - Location: San Francisco Bay area Group Description: Oracle's Linux team develops on and contributes to upstream Linux to support our engineered system as well as Oracle's Cloud infrastructure. Our team patches and enhances the Linux kernel and promotes the adoption of Linux at Oracle and in the industry in general. Developers in this role are expected to be active contributors to upstream Linux. Through our experience with engineered systems such as the flagship Exadata, we created an additional kernel option, the Unbreakable Enterprise Kernel. Supporting engineered systems required us to be more innnovative and modern with the Linux kernel, and UEK is a Linux kernel which combines mainline Linux</p>
TALEO INTERNAL OPEN DATE	02AUG18:03:00:00
TALEO INTERNAL CLOSE DATE	02FEB19:02:59:00
TALEO EXTERNAL OPEN DATE	.
TALEO EXTERNAL CLOSE DATE	.

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3809723

Field	Text
POSTED JOB NAME	10540.Software Developer 4.PRODEV.SWENG.IC4
POSTED JOB CATEGORY	PT1
VACANCY ID	3809723
DATE FROM	05/11/2018
VACANCY NAME	IRC3809723
VACANCY STATUS	Closed - Filled
NUMBER OF OPENINGS	1
TYPE OF OPENING	New
TYPE OF POST	Regular Employee Hire
TALEO REQ TYPE	Professional
TALEO REQ NUMBER	18000JMC
MANAGER ID	167185
MANAGER	Chui, Mr Chi Ching
ORGANIZATION NAME	Oracle America, Inc.
DEPARTMENT DESCRIPTION	Database Security Development
BRIEF POSTING DESCRIPTION	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veterans status or any other characteristic protected by law.
DETAILED DESCRIPTION	
JOB REQUIREMENTS	
ADDITIONAL DETAILS	
INTERNAL POSTING START DATE	05/11/2018
INTERNAL POSTING END DATE	11/10/2018
EXTERNAL POSTING START DATE	05/11/2018
EXTERNAL POSTING END DATE	11/10/2018

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3809723

Field	Text
TALEO DESCRIPTION EXT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender
TALEO DESCRIPTION EXT 2	gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO DESCRIPTION INT 1	Design, develop, troubleshoot and debug software programs for databases, applications, tools, networks etc. As a member of the software engineering division, you will take an active role in the definition and evolution of standard practices and procedures. You will be responsible for defining and developing software for tasks associated with the developing, designing and debugging of software applications or operating systems. Work is non-routine and very complex, involving the application of advanced technical/business skills in area of specialization. Leading contributor individually and as a team member, providing direction and mentoring to others. BS or MS degree or equivalent experience relevant to functional area. 7 years of software engineering or related experience. Oracle is an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender
TALEO DESCRIPTION INT 2	gender identity, disability and protected veterans status or any other characteristic protected by law.
TALEO QUALIFICATION EXT 1	Principal Data Security Cloud Service UI Developer – Redwood City, CA Overview: Oracle Database Security is building a new Data Security Cloud Service to unify the data security management. This Cloud Service will help customers to secure their data from both internal and external attacks. The service will evaluate the risk on the systems by understanding the data, users and configuration. With the built-in intelligence of the service, it can provide security controls to prevent unauthorized data access, monitor the database activities and detect threats. Responsibilities: As a member of the software engineering division, you will assist in defining and developing software for tasks associated with the developing, debugging or designing of software applications or operating systems. Provide technical leadership to other software developers. Specify, design and implement a new product. Requirements: - Experience in UI design and development - Experience in
TALEO QUALIFICATION EXT 2	Angular JS or Oracle JET - Experience in Java, Java Script, REST API, JSON, OSGi - Experience in building web based UI - Experience in building Enterprise scale software - Knowledge in Oracle database and database a big plus

Attachment D - Sample of 20 Job Requisitions for Software Developer 4

Vacancy ID: 3809723

Field	Text
TALEO QUALIFICATION INT 1	Principal Data Security Cloud Service UI Developer – Redwood City, CA Overview: Oracle Database Security is building a new Data Security Cloud Service to unify the data security management. This Cloud Service will help customers to secure their data from both internal and external attacks. The service will evaluate the risk on the systems by understanding the data, users and configuration. With the built-in intelligent of the service, it can provide security controls to prevent unauthorized data access, monitor the database activities and detect threats. Responsibilities: As a member of the software engineering division, you will assist in defining and developing software for tasks associated with the developing, debugging or designing of software applications or operating systems. Provide technical leadership to other software developers. Specify, design and implement a new product. Requirements: - Experience in UI design and development - Experience in
TALEO QUALIFICATION INT 2	Angular JS or Oracle JET - Experience in Java, Java Script, REST API, JSON, OSGi - Experience in building web based UI - Experience in building Enterprise scale software - Knowledge in Oracle database and database a big plus
TALEO INTERNAL OPEN DATE	11MAY18:03:00:00
TALEO INTERNAL CLOSE DATE	11NOV18:02:59:00
TALEO EXTERNAL OPEN DATE	11MAY18:03:00:00
TALEO EXTERNAL CLOSE DATE	13NOV18:02:59:00