

EDUCATION

Massachusetts Institute of Technology Cambridge, MA
Ph.D. in Electrical Engineering and Computer Science February 2012

- *Thesis title:* Network Coding for Robust Wireless Networks
- *Research adviser:* Professor Muriel Médard

Massachusetts Institute of Technology Cambridge, MA
M.Eng. in Electrical Engineering and Computer Science September 2007

Massachusetts Institute of Technology Cambridge, MA
B.Sc. in Mathematics June 2006
B.Sc. in Electrical Engineering and Computer Science June 2006

INTERESTS Distributed systems, Algorithms, Optimizations, Graph theory, Information theory

INDUSTRY EXPERIENCE

Dremio Corporation Mountain View, CA
Principal Software Engineer January 2016 - present

- Early engineer in stealth mode startup building a data analytics platform.

Apache Software Foundation
Committer September 2016 - present

- Committer for Apache Calcite (<https://calcite.apache.org>), a SQL query optimizer.

MapR Technologies Redwood Shores, CA
Staff Software Engineer October 2014 - November 2015

- Prototyped, designed and implemented a global publish-subscribe event streaming system for big data, MapR Streams (<https://www.mapr.com/products/mapr-streams>).
- Worked on distributed NoSQL database, MapR DB.

Oracle Corporation Redwood Shores, CA
Member of Technical Staff July 2013 - October 2014

- Design and implement features for Exadata Database Machine kernel to improve system's performance, scalability, and robustness.
- Implemented a new feature, Columnar Cache, for Exadata to improve data warehouse performance.

Akamai Technologies Cambridge, MA
Senior Software Engineer September 2012 - April 2013

- Designed and implemented a large-scale distributed system for a reliable asynchronous data transfer to configure Akamai's distribution network of 100,000+ servers.

Alcatel-Lucent Bell Laboratories Murray Hill, NJ
Summer Intern June - August 2010

- Researched on energy efficient protocols and coding techniques for wireless networks.

RESEARCH EXPERIENCE

MIT Department of EECS Cambridge, MA
Graduate Research Assistant June 2006 - February 2012

- Conducted research in the field of networks and communications.
- Designed and analyzed network protocols and algorithms.
- Independently completed multiple research projects.
- Taught *6.046 Introduction to Algorithms*.
- Collaborated and published with numerous researchers around the world.
 - **University of Porto** Porto, Portugal
Visiting Student January 2010
 - **Technische Universität München** Munich, Germany
Visiting Student June 2008

PROFESSIONAL LEADERSHIP **MIT Peer Mediator and Counselor (EECS REFS)** Cambridge, MA
Trained Mediator and Counselor June 2009 - August 2011

- Counseled students on problems related to academic, social, and personal issues.

IEEE WiOpt 3S Workshop Princeton, NJ
Technical Program Committee December 2010 - May 2011

MIT EECS Graduate Student Association Cambridge, MA
Co-President January 2009 - December 2009

- Oversaw the operations and activities of the association. In addition, interfaced with MIT administration and faculty on behalf of the EECS graduate student body.

Orientation Co-Chair January - December 2008

- Organized Visit Weekend and Orientation Week on behalf of the department (budget of \$15,000).

MIT LIDS Colloquium Cambridge, MA
Chair September 2007 - December 2008

- Invited, scheduled, and organized logistics for weekly speakers.

HONORS AND AWARDS

- Siebel Scholars Fellowship (\$25,000), Siebel Foundation, 2008
- Member of Tau Beta Pi (TBP), National Engineering Honor Society, 2005
- The Rensselaer Polytechnic Institute Medal for Mathematics and Physics, 2002

SELECTED PUBLICATIONS Author of 3 patent applications, 4 journal articles (IEEE), 12 conference papers (IEEE, ACM, or ICST), and 3 unrefereed publications.

1. [REDACTED] J. Cloud, A. ParandehGheibi, L. Urbina, K. Fouli, D. Leith, M. Médard, "Network Coded TCP (CTCP)", Submitted to *IEEE ICC*, October 2013.
2. [REDACTED] M. Médard, J. Barros, "Algebraic Watchdog: Mitigating Misbehavior in Wireless Network Coding", *IEEE JSAC*, Vol. 29, Issue 10, p. 1916-1925, December 2011.
3. [REDACTED] M. Médard, J. Barros, "Modeling Network Coded TCP Throughput: A Simple Model and its Validation", In the *Proceedings of ICST Valuetools*, May 2011.
4. [REDACTED] J. Sundararajan, M. Médard, A. Eryilmaz, R. Koetter, "Network Coding in a Multicast Switch", *IEEE Trans. Info. Theory*, Vol. 57, No. 1, p. 436-460, January 2011.
5. [REDACTED] M. Médard, "Algebraic Network Coding Approach to Deterministic Wireless Relay Networks", In the *Proceedings of IEEE Allerton Conference*, September 2010.
6. [REDACTED], L. Lima, F. Zhao, J. Barros, M. Médard, R. Koetter, T. Kalker, K. Han, "On Counteracting Byzantine Attacks in Network Coded Peer-to-Peer Networks", *IEEE JSAC*, Vol. 28, Number 5, p. 692-702, June 2010.
7. [REDACTED] D. Lucani, X. Shi, F. Zhao, M. Médard, "Network Coding for Multi-Resolution Multicast", In the *Proceedings of IEEE INFOCOM*, March 2010.