

Jorjeta G. Jetcheva

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Research Interests

- Mobile and wireless computing, networking, distributed systems, and ubiquitous computing.

Education

- *Carnegie Mellon University*, Pittsburgh, PA, Ph.D. in Computer Science, May 2004.
Advisor: David B. Johnson.
Dissertation: *Adaptive Demand-Driven Multicast Routing in Wireless Multi-Hop Ad Hoc Networks*.
- *Carnegie Mellon University*, Pittsburgh, PA, M.S. in Computer Science, May 2001.
Advisor: David B. Johnson.
- *Mount Holyoke College*, South Hadley, MA, B.A. in Computer Science (*Summa Cum Laude*) and Mathematics, May 1997. GPA: 3.91/4.0.

Work Experience

- *Sprint Advanced Technology Labs*, Burlingame, CA, *Intern*, May 2000 to August 2000. Developed tools for traffic engineering analysis of packet-level data collected at a POP (Point-of-Presence) in the Sprint backbone. Used these tools to analyze traffic patterns in the backbone and their implications for traffic engineering.
- *DataViews Corporation*, Northampton, MA, *Intern*, June 1996 to August 1996. Tested and debugged a large dynamic data visualization software package.
- *Mount Holyoke College*, *Computer Facilities Department*, South Hadley, MA, *Computer Assistant*, Fall 1995 to Spring 1997. Helped students with computer usage problems at the college computer laboratories.
- *Smith College*, *Computer Science Department*, Northampton, MA, *Research Assistant*, June 1995 to August 1995. Implemented the first version of several computational geometry algorithms invented by my supervisors, Professors Ileana Streinu and Joseph O'Rourke, along with a visualization of the progress of the algorithms.

Teaching Experience

- *Carnegie Mellon University*, Pittsburgh, PA, *Teaching Assistant*, Spring 2001. TA for 15-441, Computer Networks, an undergraduate networking class.
- *Carnegie Mellon University*, Pittsburgh, PA, *Teaching Assistant*, Fall 1999. TA for 15-412, Operating Systems: Design and Implementation, an undergraduate operating systems class.
- *Mount Holyoke College*, South Hadley, MA, *Teaching Assistant*, Fall 1996 and Spring 1997. TA for CS 101, Programming in C, an undergraduate introductory programming class.

- *Mount Holyoke College*, South Hadley, MA, *Teaching Assistant*, Fall 1995. TA for MATH 127, Seminar in Algebra, an undergraduate introductory abstract algebra class.

Journal Papers

1. Supratik Bhattacharyya, Christophe Diot, Jorjeta Jetcheva, and Nina Taft. Geographical and Temporal Characteristics of Inter-POP Flows: View from a Single POP. *European Transactions on Telecommunications (ETT)*, Vol. 13, No. 1, pp. 5–22, January/February 2002. Invited paper.
Revised from POP-Level and Access-Link-Level Traffic Dynamics in a Tier-1 POP. ACM SIGCOMM Internet Measurement Workshop (IMW), San Francisco, CA, November 2001.
2. David A. Maltz, Josh Broch, Jorjeta Jetcheva, and David B. Johnson. The Effects of On-Demand Behavior on Routing Protocols for Multi-Hop Wireless Ad Hoc Networks. *IEEE Journal on Selected Areas in Communications (JSAC)*, Special Issue on Mobile and Wireless Networks, Vol. 17, No. 8, pp. 1439–1453, August 1999.

Refereed Workshop and Conference Papers

1. Jorjeta G. Jetcheva, Yih-Chun Hu, Santashil PalChaudhuri, Amit Kumar Saha, and David B. Johnson. Design and Evaluation of a Metropolitan Area Multitier Wireless Ad Hoc Network Architecture. *Proceedings of the 5th IEEE Workshop on Mobile Computing Systems and Applications (WMCSA 2003)*, Monterey, CA, October 2003.
2. Jorjeta G. Jetcheva and David B. Johnson. Adaptive Demand-Driven Multicast Routing in Multi-Hop Wireless Ad Hoc Networks. *In Proceedings of the ACM Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, Long Beach, CA, October 2001.
3. Ashwin Sridharan, Supratik Bhattacharyya, Christophe Diot, Roch Guerin, Jorjeta Jetcheva, and Nina Taft. On the Impact of Aggregation on the Performance of Traffic-Aware Routing. *In Proceedings of the 17th International Teletraffic Congress (ITC)*, Salvador da Bahia, Brazil, September 2001.
4. Nina Taft, Supratik Bhattacharyya, Christophe Diot, and Jorjeta Jetcheva. Understanding Traffic Dynamics at a Backbone POP. *In Proceedings of SPIE ITCOM+OPTICOMM Workshop on Scalability and Traffic Control in IP Networks*, Denver, CO, August 2001.
5. Josh Broch, David A. Maltz, David B. Johnson, Yih-Chun Hu, and Jorjeta Jetcheva. A Performance Comparison of Multi-Hop Wireless Ad Hoc Network Routing Protocols. *Proceedings of the Fourth Annual International Conference on Mobile Computing and Networking (MobiCom)*, pp. 85–97, ACM, Dallas, TX, October 1998.

Standards Organizations Publications

1. David B. Johnson, David A. Maltz, Yih-Chun Hu, and Jorjeta G. Jetcheva. The Dynamic Source Routing Protocol for Mobile Ad Hoc Networks (DSR). Internet-Draft, Internet Engineering Task Force (IETF), draft-ietf-manet-dsr-06, November 21, 2001.
Revised from draft-ietf-manet-dsr-05, March 2, 2001.
Revised from draft-ietf-manet-dsr-04, November 17, 2000.
2. Jorjeta G. Jetcheva, Yih-Chun Hu, David A. Maltz, and David B. Johnson. A Simple Protocol for Multicast and Broadcast in Mobile Ad Hoc Networks. Internet-Draft, Internet Engineering Task Force (IETF), draft-ietf-manet-simple-mbcast-01, July 20, 2001.
Revised from draft-ietf-manet-simple-mbcast-00, November 17, 2000.

3. Jorjeta G. Jetcheva and David B. Johnson. The Adaptive Demand-Driven Multicast Protocol for Mobile Ad Hoc Networks. Internet-Draft, Internet Engineering Task Force (IETF), draft-jetcheva-manet-admr-00, July 13, 2001.

Other Publications

1. Jorjeta G. Jetcheva and David B. Johnson. *Routing Characteristics of Ad Hoc Networks with Unidirectional Links*. Under review.
2. Jorjeta G. Jetcheva and David B. Johnson. *Multicast Routing in Ad Hoc Networks with Unidirectional Links*. Under review.
3. Jorjeta G. Jetcheva and David B. Johnson. *A Performance Comparison of On-Demand Multicast Routing Protocols for Ad Hoc Networks*. Under review.
4. Jorjeta G. Jetcheva. *NOW (Network of Workstations) Distributed Supercomputer for Computer Vision*, Undergraduate Thesis, Mount Holyoke College, South Hadley, MA, May 1997.

Software Artifacts

1. *Multicast extensions to the ns-2 network simulator*. Includes implementations of the ADMR and ODMRP multicast routing protocols for ad hoc networks. Code available for download at http://www.monarch.cs.rice.edu/multicast_extensions.html.
2. *Monarch wireless and mobile extensions to the ns-2 network simulator*. Distributed with the standard public release of ns-2 since version 2.1b7. Joint work with Josh Broch, David A. Maltz, and Yih-Chun Hu. Code available for download at <http://www.monarch.cs.rice.edu/cmu-ns.html>.

Professional Service

- *Refereed papers* for workshops, conferences and journals including ACM MobiCom, ACM MobiHoc, ACM MobiSys, ACM SIGCOMM, IEEE INFOCOM, IEEE ICDCS, IEEE WCNC, IEEE ICC, ACM/IEEE *Transactions on Networking*, IEEE *Transactions on Mobile Computing*, IEEE *Journal on Selected Areas in Communications* (JSAC), ACM *Mobile Computing and Communications Review* (MC2R).
- *Co-Founder and Co-Chair of Women@SCS*, Carnegie Mellon University, Pittsburgh, PA, Spring 1999 to Spring 2001. An organization for facilitating social and professional interaction among graduate and undergraduate women students and faculty within the School of Computer Science, and for organizing and participating in outreach programs to increase the exposure of young girls to computer science. <http://www.cs.cmu.edu/~women/>.
- *Invited Panel Participant*. Women in Computer Science: The Carnegie Mellon Experience, Grace Hopper 2000 Celebration for Women in Computing, ACM and Computing Research Association, Cape Cod, MA, September 2000.
- *Outreach Workshop Participant*. “Build Your Own Robot” workshop at the Expanding Your Horizons Conference, a national one-day event aimed at increasing young women’s interest in mathematics and science, Pittsburgh, PA, March 2000 and March 2001.
- *Mentoring Project Participant*. Big Sister/Little Sister mentoring project, School of Computer Science, Carnegie Mellon University, 1999–2001. Met with undergraduate women studying computer science and discussed various aspects of computer science education and career opportunities.
- *Program Committee Member, and Session Chair*. SOCS-3: Third CMU Symposium on Computer Systems, a student-run systems conference, Carnegie Mellon University, October, 2000. <http://lcs.ece.cmu.edu/socs/>.

- *Chair*, Computer Science Club, Mount Holyoke College, South Hadley, MA, Fall 1996 and Spring 1997.

Honors and Awards

- Abby Howe Turner Award for Excellence in Biology, Mount Holyoke College, South Hadley, MA, Fall 1994.
- Phi Beta Kappa (top 2% in class), Mount Holyoke College, South Hadley, MA, Fall 1996.
- Sigma Xi, Mount Holyoke College, South Hadley, MA, Spring 1997.
- Bardwell Memorial Scholarship, Mount Holyoke College, South Hadley, MA, Spring 1997.
- Sarah Williston Scholar, Mount Holyoke College, South Hadley, MA, Spring 1994 to 1997.
- Full Tuition Scholarship, Mount Holyoke College, South Hadley, MA, Fall 1993 to Spring 1997.

References

- Professor David B. Johnson
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- Doctor Nina Taft
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