

Joshua Robinson

CONTACT INFORMATION

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RESEARCH INTERESTS

Wireless networks algorithms and protocols, combinatorial optimization, computer architecture and operating systems, wireless network deployment and characterization.

EDUCATION

Rice University, Houston, TX

Ph.D. Candidate in Electrical and Computer Engineering

- Thesis Title: Deployment and Evaluation of Multi-tier Wireless Mesh Networks
- Advisor: Edward Knightly
- Expected completion in Dec. 2008

M.S. in Electrical and Computer Engineering, completed June 2006

- Advisor: Edward Knightly

B.S. in Electrical and Computer Engineering, May 2003

- GPA: 3.51

PUBLICATIONS

J. Robinson, R. Swaminathan, and E. Knightly, **Assessment of Deployed, Urban-Scale Wireless Networks with a Small Number of Measurements**, *Proceedings of MobiCom 2008*, San Francisco, CA, September 2008.

J. Robinson, M. Uysal, R. Swaminathan, and E. Knightly, **Adding Capacity Points to a Wireless Mesh Network Using Local Search**, *Proceedings of IEEE INFOCOM 2008*, Phoenix, AZ. April 2008.

J. Robinson and E. Knightly, **A Performance Study of Deployment Factors in Wireless Mesh Networks**, *Proceedings of IEEE INFOCOM 2007*, Anchorage, AK. May 2007.

J. Camp, J. Robinson, C. Steger, and E. Knightly, **Measurement Driven Deployment of a Two-Tier Urban Mesh Access Network**, *Proceedings of MobiSys 2006*, Uppsala, Sweden. June 2006.

J. Robinson, K. Papagiannaki, C. Diot, X. Guo, and L. Krishnamurthy. **Experimenting with a Multi-Radio Mesh Networking Testbed**. *1st workshop on Wireless Network Measurements (Winmee)*, Riva del Garda, Italy, April, 2005.

PROFESSIONAL EXPERIENCE

HP Labs, Palo Alto, CA

September 2007 - December 2007

Research Intern: Research work on experimental evaluation of wireless mesh networks, conducted a measurement study and developed algorithms to more efficiently measure and characterize wireless networks.

Technical Reviewer for Journals/Conferences:

2005-present

Transactions on Networking, Transactions on Mobile Computing, WiOpt 2007, IEEE Communications Magazine, Journal on Selected Areas in Communications: Mesh Networks, IEEE INFOCOM 2005,

Rice University, Houston, TX

Spring 2003 - Spring 2007

Teaching Assistant: Elec 220 – Introduction to Computer Engineering. Spring semester 2003, 2005,

2006, and 2007. Developed initial course syllabus and led weekly lab lectures.

Fulbright & Jaworski LLC, Houston, TX **December 2004 - March 2006**
Technical Consultant: Consulted on two patent infringement cases related to: CDMA2000 technology and Internet router traffic shaping policies. For both cases, reviewed public information and defendant's internal documentation for evidence of infringement and advised case attorneys.

Intel Research, Cambridge, UK **February 2004 - August 2004**
Research Intern: Research work on experimental platforms for wireless mesh networking. Built wireless testbed and performed multi-radio interference experiments, heavily using Linux and 802.11b. Measured and quantified impact of operating multiple radios in a single node.

Rice University, Houston, TX **Spring 2003 - Fall 2005**
Course Grader:
Elec 537 (Fall 2004) – Introduction to Computer Networks
Comp 425 (Fall 2003, Fall 2005) – Introduction to Computer Architecture
Elec 528 (Spring 2003) – Network Processor System Design.
Graded assignments, held weekly office hours, and led exam review sessions.

Rice University, Houston, TX **May 2002 - April 2003**
Research Assistant: Full-time research assistant during the summer, working under Dr. Edward Knightly, and continuing part-time during the year. Developed a testbed implementation of a ring network scheduling algorithm for proposed IEEE standard 802.17. Programmed MIPS assembly code and using Vitesse network processor architecture.

Rice University, Houston, TX **October 2000 - April 2002**
Technical Services: Worked part-time on campus performing port activations and troubleshooting physical layer network problems. Job involved building racks, installing and configuring LAN switches (3Com and Cisco), pulling fiber/copper, making custom cabling, and maintaining SNMP software.

Texaco, Houston, TX **Summer 2000, 2001**
Summer Intern: Wireless Team (Summer 2001) - helped test wireless devices, evaluate business value, and wrote instruction manuals for following devices: Blackberry, iPAQ, Ricochet Modem, and Cellular phones. LAN/WAN Management (Summer 2000) - Validated and confirmed all Wide Area Network connections. Also worked with Unix and network management software systems.

ACTIVITIES AND HONORS IEEE Student Member, 2006-present
Rice President's Fellowship, 2003-present
English as Second Language Conversation Partner Program, 2004-2007

COMPUTER SKILLS • Packages: Ns-2, Matlab
• Languages: C/C++, MIPS Assembly, Matlab, Perl
• Operating Systems: Linux, MacOS X, Windows XP.
• Microsoft Office Software Family, Adobe Photoshop

SELECTED COURSEWORK Optimization Theory, Convex Optimization, Advanced Microprocessor Architecture, Compiler Construction, Mobile and Wireless Networks, VLSI Design, Operating Systems and Concurrent Programming, Digital Signal Processing