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# DANIEL J. TURNER

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## OBJECTIVE

To obtain a position in software engineering that utilizes expertise in datacenter network management, distributed systems programming and routing protocol failure analysis.

## EDUCATION

**Ph.D.**, Computer Science and Engineering  
University of California at San Diego, CA, Expected August 2013

**Master of Science**, Computer Science and Engineering  
University of California at San Diego, CA, June 2010

**Bachelor of Science**, Computer Science  
Harvey Mudd College, CA, May 2007  
Graduated with distinction and departmental honors

## GRADUATE COURSES and SKILLS

- Distributed Computing and Systems
- Computer Security
- Artificial Intelligence
- Computer Networks
- Operating Systems
- Database Systems

Programming Languages: C/C++, C#, Java, Python, SQL, Hadoop, HTML.  
Experience with UNIX, LaTeX, Microsoft Visual Studio, .NET, Word, Excel.

## WORK EXPERIENCE

**Microsoft Research**, Redmond, WA - Graduate Research Intern Summer 2011  
Designed and built a system for automated network health monitoring and fault mitigation. Fault detection utilized map-reduce computation to process an entire datacenter's worth of performance information in real-time while being tolerant of missing and delayed data.

**HP Laboratories**, Palo Alto, CA - Graduate Research Intern Summer 2010  
Developed and applied techniques to study network failures in enterprise networks. Heavily utilized the ETL paradigm with a MySQL database to handle multiple different data sources.

**Sun Microsystems**, Santa Clara, CA - Graduate Research Intern Summer 2008  
Built a graphical user interface that leveraged the framework of the Live\* project to allow users to effortlessly build and launch fully customized Virtual Machines.

**JetHead Development**, Carlsbad CA - Software Engineer Intern Summer 2007  
Integrated the DirectTV middleware to next-generation embedded HD-DVRs running Linux. Extensively used tools including GDB and strace to debug interactions between hardware and software on an ARM platform.

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## ACADEMIC RESEARCH and TEACHING EXPERIENCE

**UCSD CSE Department** - Graduate Student Researcher Fall 2007 – Present

- Investigated common and high-fidelity data sources used to discover network link failures to determine under which conditions data sources failed to provide an accurate representation.
- Developed a methodology for deep analysis of network failure history with only ‘low-quality,’ but commonly available data sources.
- Implemented and evaluated the accuracy of calibration-free techniques for location detection in wireless networks and found several previously unpublished limitations in common techniques.

**UCSD CSE Department.** - Graduate Teaching Assistant Spring 2012  
Planned and lead discussion sections, held office hours, and graded over 100 students in computer security at UCSD.

**HMC sponsored by Sandia National Labs** - Team Leader Sept. 2006-May2007  
Lead five students to expand and test a simulation of a supercomputer I/O node.

**HMC Computer Science Department** - Teaching Assistant Sept. 2004-May 2007  
Tutored and graded students in java, C++, and network programming class at Harvey Mudd College.

**HMC Computer Science Department** – Researcher Sept.2005-May 2007  
Verify, validate, and visualize the performance of a proportional-share disk scheduling algorithm.

## PUBLICATIONS

*"A Comparison of Syslog and IS-IS for Monitoring Link State"* **D. Turner**, K. Levchenko, A. Snoeren, S. Savage (2013) Proceedings of the ACM Internet Measurement Conference

*"NetPilot: Automating Datacenter Network Failure Mitigation"* X. Wu, **D. Turner**, G. Chen, D. Maltz, X. Yang, L. Yuan, M. Zhang, (2012) Proceedings of ACM SIGCOMM Conference

*"On Failure in Managed Enterprise Networks"* **D. Turner**, K. Levchenko, A. Mogul, S. Savage, A. Snoeren (2012) HP Technical Report HPL-2012-101

*"On the Empirical Performance of Self-calibrating WiFi Location Systems"* **D. Turner**, A. Snoeren, S. Savage (2011) Proceedings of the IEEE LCN Conference

*"California Fault Lines: Understanding the Causes and Impact of Network Failures"* **D. Turner**, K. Levchenko, A. Snoeren, S. Savage (2010) Proceedings of the ACM SIGCOMM Conference

*"TinkerNet: A Low-Cost Networking Laboratory"* T. Winters, M. Erlinger, R. Ausanka-Cruess, M. Kegel, E. Shimshock, **D. Turner** (2006) Eighth Australasian Computing Education Conference, ACM Press.

## ACTIVITIES

**President**, Association for Computing Machinery, Claremont, CA 9/06 – 05/07

**Eagle Scout**, Boy Scouts of America

**Member of Sigma Xi**, Scientific Research Society