RYAN WILSON

916-588-7783 • rtwilson@stanford.edu • 584 Shoal Circle • Redwood City, CA 94065 • http://stanford.edu/~rtwilson/

OBJECTIVE:

Graduate student seeking to apply mathematics and computer science knowledge to problems in networking and security

EDUCATION:

Stanford University, March 2014
- Masters of Science Degree in Computational and Mathematical Engineering
  - Specialization in Computer Science

UCLA College of Letters and Sciences, June 2011
- Bachelors of Science Degree in Applied Mathematics
  - Departmental Honors and Cum Laude Latin Honors
  - Cumulative GPA: 3.7

RELATED WORK EXPERIENCE:

- Tools Team Intern
  - Nicira / VMware, April - September 2012
  - Designed and implemented distributed system using Parallel Python to improve build time
  - Created web application with Django framework to visualize build information
  - Added automated bug finding with git bisect to unit testing software

RESEARCH EXPERIENCE:

- Improving Datacenter Performance and Robustness with MultiPath TCP
  - Ran several workloads over FatTree topologies with Mininet, a packet-level network simulator
  - Recorded and analyzed host and network statistics such as throughput, switch queue size and RTT to determine effectiveness of the simulation
  - Results can be found here: http://reproducingnetworkresearch.wordpress.com/2013/03/13/cs244-13-improving-datacenter-performance-and-robustness-with-multipath-tcp/

- Jinzora Mobile for Iphone
  - Stanford research group MobiSocial's mobile music application
  - Integrated with MobiSocial's Musubi Iphone application to allow for sharing of playlists
  - Added remote song downloads / local caching feature

- Robot Swarming over the Internet
  - Research Experience for Undergraduates at UCLA, Summer 2011
  - Accepted to 2012 American Control Conference, Paper FrC01.5
  - Implemented robot swarming and barrier avoidance algorithms in C
  - Wrote network communication (TCP/IP) and data processing scripts in C and Matlab for real-time swarm-to-swarm communication between UCLA and Cincinnati

- Effect of localization, length and orientation of chondrocytic primary cilium on murine growth plate organization
  - Research Experience for Undergraduates at UCLA, Summer 2010
  - Published in the Journal of Theoretical Biology, Volume 285, Pages 147-155
  - Mathematically modeled bone cell reproduction and provided statistical comparisons between data and simulations
  - Applied image processing to automate bone cell data collection, using edge-detection, image-smoothing and shape-fitting algorithms in Matlab

- Determining Eigenvalues of Response Matrices for Discrete Resistor Networks
  - Research Experience for Undergraduates at University of Washington, Summer 2009
  - Developed algorithms in Matlab to evaluate patterns in characteristic polynomials of multiple response matrices

TECHNICAL SKILLS:

- Languages: C/C++, Python, Java, Shell Script, Assembly, XML, PHP, JavaScript, MySQL, Objective-C, Matlab
- Web applications with Django framework
- Embedded Systems (working with limited CPU and memory resources)
- Tools: MS Office, LaTEX, git, GCC, GDB, Xcode, Iphone SDK, Eclipse, Android SDK, Xilinx ISE Design Suite, VMware vSphere ESX, VMware Player

OTHER WORK EXPERIENCE:

- Course Assistant, CME 102: Ordinary Differential Equations for Engineers, Stanford University, Winter 2012
- Grader, computer science and math courses, UCLA, Academic year 2009-2010
- Quality Assurance Tester, Electronic Arts, Redwood City, CA, Summer 2008-09

HONORS AND AWARDS:

- UCLA Regents Scholar
- UCLA Alumni Scholar
- Robert C. Byrd Honors Scholarship Recipient
- Six-time UCLA Dean's List Recipient
- William Lowell Putnam Mathematical Competition (Fall 2009), Placed in the top 25%
- Eagle Scout, Boy Scouts of America