Timothy Johnson

Personal Data

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Work Experience

September 2016 June 2016	**Software Engineering Intern, Google.** Full-stack web development for Course Builder, an open source platform for hosting online courses on Google App Engine. I added visualizations of the graph of skills for a course and their prerequisites, so that students can navigate it more easily.
September 2015 June 2015	**Software Engineering Intern, Garmin International, Inc.** Maintained navigation systems for various models of Mercedes Benz cars. Improved tools for analyzing drive test logs, both by enhancing usability and adding features. Wrote reports for Daimler on GPS positioning issues. Monitored and updated nightly regression tests.

TA Experience	
Winter 2016	Computational Geometry
Fall 2015	Formal Languages and Automata
Winter 2015	Formal Languages and Automata
Fall 2014	Introduction to Algorithms
Summer 2014	Introduction to Python

Education

Current September 2013	PhD in Computer Science, University of California, Irvine GPA: 3.9/4.0
June 2013 September 2010	B.S. in Mathematics, California Institute of Technology GPA: 3.2/4.0
June 2010 August 2007	A.S. in Mathematics, El Camino College GPA: 3.9/4.0

Research

- Goodrich, M., Johnson, T., Torres, M. Knuthian Drawings of Series-Parallel Graphs. Poster published at Graph Drawing 2015, full paper on Arxiv: http://arxiv.org/abs/1508.03931.
  We designed and implemented an algorithm for drawing a binary series-parallel graph in linear time, using $O(n \log n)$ area, and with equal width and height.

- Current project: DARPA STAC program. The Space/Time Analysis for Cybersecurity (STAC) program seeks to enable analysts to identify algorithmic resource usage vulnerabilities in software at levels of scale and speed great enough to support a methodical search for them in the software upon which the U.S. government, military, and economy depend.

Competitive math and programming

- ACM Chapter President, UCI, 2015-17. I coach students to compete at ICPC, by running algorithm practices each week.

- 2009-10 AMATYC math contest. I placed 8th overall, out of several thousand participating community college students in the US.