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Data scientist passionate about producing insightful data analysis and innovative data visualizations, enthusiastic about making friction-free user interfaces, and consistently seeking to improve the efficiency of the teams I work with.

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## Experience

### Apple Product Design

#### Data Scientist and Visualization Engineer

February 2012 - Current

- Led analysis and visualization efforts for data collected at various stages of the product development cycle at Apple including design, prototyping, manufacturing, and post-release. Wrote scripts and created tools that allowed engineers to identify core issues within minutes as opposed to days.
- Collaborated closely with various teams across the company as the data science and visualization lead. These teams include Industrial Design, Product Design, Manufacturing Design, Advanced Manufacturing Engineering, and Operations.
- Created automated reports detailing daily factory performance for a few key products.
- Wrote algorithms to help determine part selection that would optimize final system cosmetics.
- Built generic visualization tools (primarily web-based or in Processing) that continue to be used throughout the company.
- Architected and developed visualizations for viewing and monitoring manufacturing data in real-time.
- Revamped an existing product quality monitoring tool to improve usability and speed, as well as permit more in-depth analysis of issues.

### Open Source Statistics Library

#### Papaya

January 2012

- Created and maintained the open-source [papaya](#) library — a collection of statistics, mathematics, and matrix manipulation related utilities — for the [Processing](#) programming environment.

### Apple Industrial Design

#### Data Analyst Intern

May - Aug 2011

- Analyzed and visualized data specific to an at-the-time unreleased project with the help of various software platforms (primarily Matlab, Processing, Adobe Illustrator).

### University of California at Berkeley

#### Research Assistant

2007-2011

- Helped develop and improve upon a model of the lumbar spine (models viewable at [simtk.org/home/lumbarspine](#) and [simtk.org/home/spinebushing](#)).
- Wrote algorithms to aid with data acquisition and interpretation of experimental data sets obtained from in-vitro testing of lumbar specimens. Ran extensive error analysis on the resulting data.
- Published articles in peer-reviewed journals on [a musculoskeletal model of the lumbar spine](#), [the dynamics of the intervertebral disc](#), [Cartesian stiffness matrices](#), [error analysis of experimentally obtained data sets](#), [quantification of rigid body motion using quaternions](#), and [plant growth dynamics](#).

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## Technical

- Data Processing & Analysis: R, Python, Javascript, Processing, Java, Matlab, JMP.
- Data Visualization: Javascript, R, JMP, Processing, Matlab.
- Web Development: Javascript (d3, React), CSS/Sass, Shiny-Server, node.js, postgres.
- Other Misc: Unix shell scripting, Git, Velocity, Full MS Office and iWork suites.

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## Education

- PhD in Mechanical Engineering, University of California at Berkeley, CA, 2008-2011.
- Masters in Mechanical Engineering, University of California at Berkeley, CA, 2006-2008.
- Bachelor of Engineering in Mechanical Engineering, Vanderbilt University, Nashville, TN, 2002-2006.
- Bachelor of Arts in Mathematics, Vanderbilt University, Nashville, TN, 2002-2006.
- Bachelor of Arts in Physics, Vanderbilt University, Nashville, TN, 2002-2006.

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## Awards

- | Departmental Block Grant Fellowship, Fall 2006, Summer 2009, Spring 2010, Spring 2011.
- | Panel Speaker, Teaching Conference for New International Graduate Student Instructors , Fall 2010 & 2011.
- | National Science Foundation Research Grant , Spring & Summer 2007, Spring & Summer 2008, Fall 2009, Summer & Fall 2010.
- | Outstanding Graduate Student Instructor Award , 2008-2009 Recipient.
- | Penang International Biathlon 2006, Women's runner-up.
- | Youth Speaks for the Nation Elocution Contest , First Place Winner, 2001.

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## Interests

- | Technical: Better ways of visualizing data, User-friendly documentation, User interfaces.
- | Sports: Squash, Standing Desk-ing.
- | Other: Human-Device interaction, Psychology, Perception, Design interfaces, Consumer behavior, Grocery shopping, Boiling water, Making ice, Trying to be funny.