

# Jonathan Sauder

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## Objective

Mechanical Design Engineer with a passion for design seeking a position utilizing tenacity for product innovation, recognition of value-add opportunities, and hands-on prototyping experience.

## Education

**University of Southern California**, Los Angeles, CA Provost's Fellow, GPA: 3.91/4.00  
**Doctor of Philosophy in Mechanical Engineering** Dec. 2013  
Research: Collaborative Stimulation in Team Design Thinking  
**Master of Science in Product Development Engineering** Dec. 2011  
**Bradley University**, Peoria, IL Summa Cum Laude, GPA: 3.95/4.00  
**Bachelors of Science in Mechanical Engineering** May 2009

## Software Skills

SolidWorks, Pro/Engineer, Pro/Mechanica, AutoCAD, Microsoft Office Products, Visual Basic (Novice)

## Industry Experience

**Precision Planting**, Tremont, IL Jan. to Aug. 2013

### Field Engineer, contracted through Monsanto

- ▶ Installed, tested, and monitored agricultural technology products on 12 combines at 7 sites in Argentina, Brazil and New Zealand, writing daily progress reports to drive design innovation
- ▶ Designed test tools and overcame frequent resource limitations due to geographic location
- ▶ Developed R&D partner relationships across cultural and language barriers by conducting training, obtaining user feedback, and ensuring implementation of ideas

**Microsoft**, Redmond, WA May to Aug. 2011

### Program Management Intern, Windows Phone

- ▶ Designed the user interface for a new calling feature to solve an unmet customer pain point
- ▶ Oversaw schedule, brainstorming sessions, and system integration with UX/graphic design, software development, software testing, and product planning for the feature
- ▶ Innovated to overcome resource shortages by personally conducting user tests with HR

**Mattel**, El Segundo, CA Jun. to Aug. 2010

### Mechanical Engineering Intern, Hot Wheels

- ▶ Improved performance of a well established, mass produced product by 60% while decreasing cost by 5% through developing an innovative test to quantify performance
- ▶ Developed excel macros and updated injection molding costs in pricing spreadsheets
- ▶ Led an interdisciplinary team in inventing, developing, and prototyping a new and creative toy which was then presented to the CEO and Mattel executive leadership team

**Product Design Consulting**, Los Angeles, CA May 2009 to Present

- ▶ Consulted clients on product development including simplehuman, KOR Water, and startups
- ▶ Managed product development, made prototypes, and conducted user research/focus groups
- ▶ Utilized design methods and Quality Function Deployments (QFD) to guide design processes

**Precision Planting Inc.**, Tremont, IL May 2007 to Oct. 2008

### R&D Engineering Intern

- ▶ Designed and tested technology devices, including load sensors netting \$970k in the first year
- ▶ Created and analyzed models using Pro/Engineer and Pro/Mechanica, logging over 1000 hours
- ▶ Designed parts for injection molding, investment casting, sheet metal fabrication, and assembly

## Academic Experience

**University of Southern California**, Los Angeles, CA Aug. 2011 to Present

### Teaching Assistant

- ▶ Assisted in the instruction of Solidworks, automotive design, and systems design courses
- ▶ Organized visits by industry professionals to enrich class for the students
- ▶ Instructed other teaching assistants on how to teach Solidworks

**University of Southern California**, Los Angeles, CA

Aug. 2009 to Present

**Doctoral Research**

- ▶ Identified how collaboration stimulates creative thought process in engineering design, providing insights into more effective collaborative techniques
- ▶ Developed a new experimental method to analyze thought processes during collaboration
- ▶ Wrote papers for journals, presented at conferences, and obtained an NSF grant

**Viterbi Graduate Students Association**, Los Angeles, CA

May 2010 to May 2011

**Aerospace and Mechanical Engineer Senator**

- ▶ Organized the first annual "Viterbi Cup" soccer tournament, in which the dean played
- ▶ Developed the first annual AME Department poster competition and other events
- ▶ Assumed responsibility for and successfully coordinated a student talent competition with over 200 in attendance in two weeks after the Vice President of Programs suddenly resigned

**Independent Research**, Bradley University, Peoria, IL

Jan. to May 2009

**Design of an In-draft Supersonic Wind Tunnel**

- ▶ Project was created to design an in-draft supersonic wind tunnel for laboratory use
- ▶ Conceptualized a design based on compressible fluid flow equations and constructed a working representation in the shop for design verification
- ▶ Captured data and images from a current blow-down supersonic wind tunnel

**Eye-On-Life**, Springboard Business Plan Competition, Peoria, IL

March to April 2009

**Product Development Lead**

- ▶ Designed concepts for the hardware and interface of a touch screen restaurant menu
- ▶ Completed all work in under three weeks; including a CAD model and functioning interface
- ▶ Presented to a team of industry experts and won second place in the competition

**Senior Project**, Bradley University, Peoria, IL

Aug. 2008 to May 2009

**Flow Visualization Inside a Lab, for Los Alamos National Laboratory**

- ▶ Project found hazardous chemical concentrations in a scale model laboratory after a spill
- ▶ Replaced water with air to achieve appropriate Reynolds number at smaller scale
- ▶ Designed the scale model in Pro/Engineer and analyzed in Pro/Mechanica to find stresses
- ▶ Constructed the model and support structure using a mill, CNC machine, and MIG welder

**Stanford University**, Stanford, CA

Aug. to Nov. 2008

**Team Leader, REE Fellows Program**

- ▶ Collaborated on online entrepreneurial projects with an international multi-disciplinary team from 3 different continents, which required scheduling meetings around time zones
- ▶ Program concluded with a course and business plan contest at Stanford focusing on innovation, entrepreneurship, and collaboration. Plans were presented to an international group of faculty

**Academic Honors**

- ▶ University of Southern California Provost's Fellow
- ▶ Tau Beta Pi Engineering Honor Society
- ▶ Member of 2007 All-Illinois Academic Team
- ▶ Recipient of the American Society of Mechanical Engineers John and Elsa Gracik and the Illinois Space Grant Consortium scholarships
- ▶ Presidents Honor List, Deans List, and National Deans List

**Other Activities**

- ▶ Served as a USC Viterbi Ambassador by going to other universities and recruiting graduate students
- ▶ Founding member and treasurer in Bradley University Engineers Without Borders chapter
- ▶ Served as Vice President of Scholarship in Phi Theta Kappa
- ▶ Volunteer on the Mt. Baldy Ski Patrol to medically assist injured skiers and avid surfer