

# STUART HELGESON

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## EDUCATION

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**University of Pennsylvania, School of Engineering and Applied Science** Philadelphia, PA  
Candidate for Master of Science in Engineering Fall 2016  
*Major:* Robotics  
*Relevant Coursework:* Design of Mechatronic Systems, Intro to Robotics, Engineering Entrepreneurship, Feedback Control, Design for Manufacturing, Intro to Optimization, Embedded Systems, Computer Vision

**University of Pennsylvania, School of Engineering and Applied Science** Philadelphia, PA  
Candidate for Bachelor of Science in Engineering Spring 2016  
*Major:* Mechanical Engineering & Applied Mechanics *Minor:* Mathematics  
*Relevant Coursework:* Intro to Mech. Design, Machine Design and Manufacturing, Vibrations, Heat & Mass Transfer, Dynamics

## EXPERIENCE

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**Technology and Product Mechanical Engineering Intern, Comcast** Philadelphia, PA  
*Supported mechanical engineering activities pertaining to all hardware development at Comcast HQ* Summer 2016

- Worked in tandem with the industrial design and electrical engineering teams to ensure feasibility of new products
- Designed housings for new devices and 3D printed prototypes for the hardware department
- Implemented thermal analysis capabilities in order to verify new product designs and check various vendors' claims

**University of Pennsylvania, GRASP Laboratory, Haptics Lab, Undergraduate Research Assistant** Philadelphia, PA  
*Working on a joint project with Berkley, funded by the National Robotics Initiative to build a system to collect visuo-haptic data for a database to be used for machine learning* Summer 2015-Fall 2015

- Created a smart dock that interfaced with a Linux based system to determine which end effector was collecting data
- Designed and built a portable data collection system that fits into a backpack
- Collected force data with various sensors, analyzed and visualized data with MATLAB
- Created instruction manual explaining how the device works and how to use it

**Freelance Product Designer** Philadelphia, PA  
*Recommended by professor to partner with a Penn Vet Student seeking engineer to create a consumer product* 2014-2016  
(<http://www.google.com/patents/US8464662>)

- Combined mechanical, electrical and design skills to develop a working prototype of the device
- Devised way to automate the device
- Ordered and documented all purchases necessary for the project; created multiple BOM's
- Produced videos demonstrating product (<https://www.youtube.com/watch?v=RCfVBhlaPbU>)
- Networked and organized investor meetings, working on a licensing deal

**Sales Representative, Vector Marketing** Lancaster, PA  
*Sold Cutco kitchen products* Summer 2012

- Networked and made calls to set up appointments for potential customers
- Presented products in approximately 30 customers' homes
- Promoted twice for sales (sold over \$9,000 in merchandise)

## EXTRACURRICULARS

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**Penn Varsity Sprint Football**

- Captain, 4 Year Varsity letter winner
- 2 x 1<sup>st</sup> and 2<sup>nd</sup> Team All-League Honors

**Hexagon Senior Society**

- Engineering Senior Society that brings together prominent seniors across engineering majors
- Responsible for giving tours of the Engineering School

**Penn Rugby Football Club**

- Helped the team win its first City 6 Ruby 7's Championship
- Led team in try's scored

## PROJECTS

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**Robockey:** 4-man team created 3 autonomous hockey playing robots for 2014 tournament ([www.robockey.com](http://www.robockey.com))

**Cruise Control:** used an iPhone to remotely control a tiny car

**Doodle Jump:** made a version of Doodle Jump in MATLAB

**Pixel:** smart, connected tag kid's game

**VenDawa:** pharmacy in a box for underdeveloped countries

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**Programming:** MATLAB, C, HTML5, CSS, JavaScript, Python

**Software:** SolidWorks, Inventor, AutoCAD, Photoshop, Illustrator

**Skills:** Manufacturing (metals, composites, wood, sheet metal), Rapid Prototyping (Laser cutting, 3D Printing), FEA