SARAH ANGLE

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Education

B.S. Mechanical Engineering Cornell University — Expected Graduation, May 2016

Major GPA 3.99/4.00 ; Total GPA 3.94/4.00 ; Dean's List: all semesters.

Work Experience

Applied Innovation Intern Autodesk Office of the CTO — June - August 2015

Worked as part of a group of six interns to research effectiveness of Fusion360. Tested workflow from design to build by doing special projects focused around creation, using tools including 3D printers and scanners, 5 axis CNC mills, and an electronics lab. Created custom orthotic glove actuated via servo to improve dexterity and muscle memory for people with disabilities or learning new tasks. Presented findings on software functionality directly to product teams and CEO.

Undergraduate Researcher Cornell Creative Machines Lab — January 2014 - May 2015

Collaborated with Professor Hod Lipson and his research group to design first 3D printable actuators for future use in soft robotics. Built experimenting systems to test and demonstrate properties of a new material. Designed and machined a testing apparatus originally quoted at $6000. Presented a paper on research to PhD lab members.

Engineering Intern Columbia Gas of Massachusetts — June - August 2014

Worked to replace aging utility infrastructure. Assisted team of 8 engineers in designing projects with a total budget of $17 million. Created projects and corresponding plans for field construction, including maps, required stock, and possible emergency responses. Conducted construction site visits. Wrote construction procedures that allowed work to be done on live gas mains.

AEW Co-Facilitator Cornell Engineering Learning Initiatives — September - December 2013

Taught a cooperative based workshop to aid students in CHEM 2090, Introductory Chemistry for Engineers. Responsible for lesson plans, worksheets, review papers, and student collaboration. Communicated with course faculty and other facilitators.

Relevant Projects

Autonomous Robot Competition MAE 3780 Mechatronics

Built a microcontroller based autonomous battle bot. Created mechanical hardware (chassis, armor) and integrated servo system to act as an offensive weapon. Designed and chose component transistors for motor driving H-Bridge. Implemented competition strategy using sonar and light sensors. Cooperated with other students to program microcontroller using C.

Design and Build of Air Motor MAE 2250 Mechanical Synthesis

Conceptualized and manufactured dual piston-cylinder air motor in five weeks with a $50 budget. Created CAD assembly of prototype and drawings of individual parts. Calculated power output, safety factor against failure, and other engineering analyses. Designed and manufactured each part in-house on lathe and mill from aluminum and steel stock. Compiled technical report to document each project stage.

Skills

Design: SolidWorks, Autodesk Fusion360, Inventor, AutoCAD, ANSYS, LabVIEW
Programming: MATLAB, C, Java, Arduino
Manufacturing: 3D Printer (Objet, Ember, etc.), Laser Cutter, CNC Mill, Hand Lathe and Mill

Hobbies

Backpacking/Hiking, Rock Climbing, Backcountry Skiing, Live Music, Guitar, Reading