

Madee Haworth

mhaworth@alum.mit.edu | 414.828.6998 | madeehaworth.github.io

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

BS IN MECHANICAL ENGINEERING CONCENTRATION IN ROBOTICS

June 2019

Cum. GPA: 4.8 / 5.0

COURSEWORK

Product Design Engineering
Design & Manufacturing I, II
Mechanics & Materials
Toy Product Design
Dynamics & Controls
Feedback Control Systems
Thermodynamics
Fluid Dynamics
Numerical Computation
Measurement & Instrumentation
Electronics for Mech. Systems
Introduction to Robotics
Artificial Intelligence
The Art & Science of Negotiation

SKILLS

Software:

SolidWorks • Creo Parametric
Autodesk Fusion 360 • MasterCAM
LabVIEW • MagicDraw • ANSYS

Fabrication:

CNC and manual milling • turning
injection molding • thermoforming
laser cutting • 3D printing
soldering • woodworking
shop equipment and hand tools

Languages:

MATLAB • Python • Arduino
Basic Spanish

ACTIVITIES

Phi Sigma Rho colony, founding member
Society of Women Engineers
Dormitory House Government
MIT Undergraduate Research Journal
Undergrad Practice Opportunities Prgm
Associate Advising
Dramashop

EXPERIENCE

MICROSOFT | MECHANICAL ENGINEERING INTERN

Summer 2018 | Redmond, WA

- Executed redesign of a mechanical subsystem to control opening force of a next-generation Surface device
- Performed simulation using ANSYS and Creo to determine optimal geometry
- Coordinated with industrial designers, manufacturing engineers, and suppliers to ensure subsystem meets UX, manufacturing, and assembly requirements
- Submitted preliminary patent application materials for subsystem design

RIGHTHAND ROBOTICS | MECHANICAL ENGINEERING CO-OP

Spring 2018 | Somerville, MA

- Optimized mold designs for 6 ReFlex robotic hands in SolidWorks, enabling faster, easier fabrication of adaptive fingers
- Performed independent robotic hand testing and assembly for customers

ATLAS DEVICES | ENGINEERING EXTERN

Jan 2018 | Boston, MA

- Designed mechanical assembly for land-based tactical robot in SolidWorks, in collaboration with team of 4 externs
- Led fabrication and verification of prototype within tight 4-week timeline

NORTHROP GRUMMAN | SYSTEMS ENGINEERING INTERN

Summer 2017 | San Diego, CA

- Supported development of functional architecture for an unmanned aircraft
- Created & implemented closure plan for system architecture traceability gaps
- Updated systems architecture artifacts using object-oriented modeling (SysML)

LEADERSHIP

MIT PROJX | DIRECTOR, MEMBER

Sep 2016 - Present, Director Mar 2017 - Mar 2018

Director of group that funds and supports MIT students' side projects. Spearheaded creation of successful new expo event, coordinated access to resources and mentorship for over 100 participants, and managed \$40,000 budget.

MCCORMICK HALL JUDICIAL COMMITTEE | CHAIR

Sep 2015 - May 2018

Chaired committee in charge of judicial & disciplinary matters in a dorm of 250+ undergraduate women. Addressed & resolved 15 individual complaints and introduced 2 constitutional amendments.

PROJECTS

TALON | FALL 2018

Developed mechanism and structure for patent-pending utility knife within a team of 24 students for capstone mechanical engineering class. Talon received the 2019 Martin Prince Innovation Award.

TEA-LICIOUS | FEB 2018

Designed structure, integrated actuators, and wrote software for automatic tea-making machine during MakeHarvard and MakeMIT 2018.