

# Madee Haworth

mhaworth@mit.edu | 414.828.6998 | web.mit.edu/mhaworth/www

## EDUCATION

### MASSACHUSETTS INSTITUTE OF TECHNOLOGY

#### BS IN MECHANICAL ENGINEERING CONCENTRATION IN ROBOTICS

Expected 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.