

MIYUKI WELDON

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EDUCATION

University of California, Berkeley

B.S. in Mechanical Engineering | GPA: 3.8

Expected: 2020

Relevant Coursework: Manufacturing and Tolerancing, Statics and Mechanics, MATLAB, Dynamics, Controls, Circuit Design, Lagrangian Mechanics, Mechanism Design, Fluid Mechanics, Materials

EXPERIENCE

Hybrid Robotics Lab – TABREA Project Member

May 2018 – Present

This lab is a UC Berkeley Mechanical Engineering lab focusing on controls of dynamic robotic systems.

- Working on TABREA (Thigh-Actuated Bipedal Robot for Extreme Agility) project
- Leading a project where a planetary gear is designed, optimized, and manufactured for the robot's thigh
- Tested and performed analysis on different materials to determine 3D printed strength

Pioneers in Engineering – Director of Engineering

May 2018 – Present

PiE is a student-run non-profit at UC Berkeley that provides an extremely discounted robotics competition to 300+ students from underserved high schools in the Bay Area.

- Managing and advising the hardware-based engineering teams
- Exploring long term, large scale engineering projects to reduce the costs of the robotics kit
- Sourcing and talking to manufacturers to acquire cheap electrical and mechanical parts
- Modeling and creating engineering drawings and contacting manufacturers to produce parts

Wireless Deadbolt Unlocker Project– Design Lead

October 2018 – December 2018

- Designed and manufactured an external, wireless, mechanical deadbolt unlocker for a final class project
- Chose a 3:1 gear ratio to supply more torque from the servo motor and to provide the correct degrees of rotation due to the servo motor's 270 degree range

Robotics Tetris Project – Parts Manufacturer

October 2018 – December 2018

- Had a Baxter robot solve a puzzle based on the computer game tetris for a final class group project
- Laser cut the puzzle pieces with AR tags as well as helped determine the AR tracking orientations

Pioneers in Engineering – Mechanical Team Project Manager

August 2017 – May 2018

- Led the 10-person mechanical team in designing, prototyping, and manufacturing
- Learned to resin cast polyurethane gears to cut outsourcing costs
- Carefully documented projects and applied for a grant to acquire funding for future projects
- Redesigned mechanical parts in the robotics kit given to the high school students to improve versatility

Electrical Engineering 16A – Group Tutor and Reader

August 2018 – Present

- Grade assignments and tutor students on homework in office hours

Engineers Without Borders – Peru Team Member

August 2016 – May 2018

- Worked to develop solutions to provide clean water to replace arsenic filled well water in rural Peru
- Traveled to the community of Carancas, Peru in August 2017 to construct a rainwater catchment system

Student Learning Center – Math Tutor

January 2018 – August 2018

- Tutored undergraduate level math classes at the UC Berkeley Student Learning Center
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SKILLS

AutoCAD and Solidworks

GD&T

ROS

Machining

Matlab and Simulink

ANSYS/FEA

3D Printing

Laser Cutting