MIYUKI WELDON

Berkeley, CA | (909) 633-4298 | miyukiweldon99@gmail.com | miyukiweldon.com | www.linkedin.com/in/m-weldon

EDUCATION

University of California, Berkeley

B.S. in Mechanical Engineering | GPA: 3.78 **Expected: May 2020**

M.S. in Mechanical Engineering **Expected: May 2021**

Relevant Coursework: Manufacturing/Tolerancing, Statics, MATLAB, Dynamics, Controls, Circuit Design, Lagrangian Mechanics, Mechanism Design, Fluids, Materials, Mechatronics, PCB Design

SKILLS

Solidworks, Fusion360, MATLAB, CAM, CAD, GD&T, FEA, Arduino, 3D Printing (FDM, SLA), Injection Molding, Laser Cutting, Waterjet, Manual Machining (Mill, Lathe), PCB Design

EXPERIENCE

Relevant Experience

Foxeye Robotics – Mechanical Engineering Intern **May 2019 – Present**

- Did extensive prototyping on an acquisition end effector that was SLA printed with the Form 2
- Addressed safety factors by designing a breakaway end effector that released above a threshold force
- Explored Form 2 materials along with printing practices that balanced resolution with ductility
- Designed a holder of non-rigid parts that were .15mm in diameter, pushing the printer resolution limits

Living Loop – Structural Engineering Intern **May 2020 – August 2020**

- Designed track intersections for transportation pods associated with Hyperloop technologies
- Modified these designs to be manufactured using both small and large sized 3D printing

Hybrid Robotics Lab – Undergraduate Researcher **May 2018 – May 2019**

- Led a project where a cycloidal gearbox is designed, optimized, and 3D printed for a robot's thigh
- Tested and performed analysis on different materials to determine 3D printed strength

Pioneers in Engineering – Director of Engineering, Mechanical PM **May 2017 – May 2019**

PiE is a UC Berkeley non-profit that provides an accessible robotics competition to underserved, local students.

- Managed and advised the 30+ person hardware-based engineering teams
- Created engineering drawings to outsource sheet metal parts and ultimately cut kit metal costs by $3000
- Learned to resin cast polyurethane gears and experimented with injection molding to reduce to <$1/gear

Projects

The Amazing Cane **January 2020 – May 2020**

- Designed part of a 3D printed white cane attachment to alert visually impaired people of obstacles
- Wrote the Arduino code and set up the electronics for an ultrasonic sensor, speaker, and vibration motor

Planting Robot Project – Watering System Designer **October 2019 – December 2019**

- Designed a gravity fed watering system routed from a 2L bottle and controlled by a solenoid valve
- Printed a bottle cap (PLA) and a gasket (TPU) with rigid polyethylene and flexible silicone tubing

Wireless Deadbolt Unlocker Project– Mechanical Design Lead **October 2018 – December 2018**

- Designed/manufactured a laser cut gear ratio mechanism and housing for an external deadbolt unlocker

Additional Experience

Electrical Engineering 16A – Undergraduate Student Instructor **August 2019 – Present**

- Taught discussion sections and office hours covering basic circuits, linear algebra, and optimization
- Wrote Python scripts to output randomized LaTeX files for multiple choice student exams

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