Benjamin Hillen

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EDUCATION

Oregon State University Honors College *June 2022*

Honors Bachelor's of Science: Electrical & Computer Engineering and Computer Science GPA: 3.96/4.00

PROFICIENCIES

Technical:	Soldering (Hand and Reflow), Oscilloscope, Multimeter, Analog Circuits, Circuit Debugging
Software & Languages:	LTSpice, MATLAB, CircuitMaker, KiCad, Autodesk Fusion 360, Arduino IDE, C++

EXPERIENCE

Engineering Student Ambassador

Oregon State University: College of Engineering *June 2019 – April 2020*

- Represented the college of engineering at OSU by providing tours to prospective families.
- Provided a welcoming environment to students by cooperating with teammates to host enjoyable events.
- Elaborated on OSU engineering specific policies and opportunities when questioned by families.

OSU Mars Rover Electrical Team Member

Oregon State University Robotics Club *October 2018 – May 2019*

- Designed and constructed higher efficiency PCBs for motors on the rover using CircuitMaker and Fusion360.
- Prototyped a range-finder module and requisite software using Arduino and C++.
- Soldered PCBs using microscopes and reflow oven techniques.
- Collaborated with team members to troubleshoot unexpected power failures on the rover using oscilloscopes and digital multimeters.

Non-Profit Co-Founder

Student Hunger Strike Force *September 2017 – June 2018*

- Recruited a leadership team of 15 students from South Medford High to alleviate hunger in the Medford area by signing up bi-monthly food donors.
- Coordinated weekly meetings by setting donor goals, delegating specific leadership tasks to members, and organizing dates for tasks to be completed while maintaining flexibility in the group's methods.
- Surpassed yearly goal by signing over 200 bi-monthly food donors, collecting approximately 8,400 meals, and securing a $1,000 grant for a Sparrow organization child.

PROJECTS

Arduino Audio Visualizer

Oregon State University – One Month Project *June 2020*

- Developed a robust audio visualizer using digital signal processing to represent the strength of low, mid, and high frequencies in an audio signal using an Arduino UNO and an analog amplifier circuit.
- Implemented Arduino software that sampled an audio signal, separated the signal into component frequencies, and output the strength of the component frequencies to three LED bands.
- Optimized and simulated an amplifier circuit in LTSpice which took audio from an electret microphone and increased the voltage to a level that could be read by the Arduino analog input pins.
- Negotiated team standards with partner regarding timely and quality completion of the project.

ACHIEVEMENTS AND MEMBERSHIPS

- Member of Eta Kappa Nu 2019-Present
- Presidential Scholar of Oregon State University
- College of Engineering Leadership Academy Member
- Engineering Dean's list at OSU for 2018-2020