James Ensminger

(510) 541-8571 • jensminger0@gmail.com • www.jamesemaj.com

PROJECTS AND ACHIEVEMENTS

Multi-Device Wireless Charger Dec 2022 - Jun 2023

- Developed a Qi standard wireless charger with improved freedom of placement for multi-device charging, an intuitive visual charge indicator determined by stakeholders, and an efficient heat management system that enables it to operate 5°C cooler than current chargers on the market.
- Successfully designed and 3D printed an optimized enclosure for the wireless charger that's durable, compact, ergonomic, and made out of premium materials determined by stakeholder focus groups.
- Improved the PCB layout of the power delivery system design for the charger.

Ground Bounce PCB Test Circuit Mar 2022 - Jun 2022

- Designed a PCB test circuit to experimentally observe the electrical phenomena of ground bounce.
- Developed the PCB design with OrCAD Capture and Allegro PCB Editor, then milled it using an M60 LPKF.

Boolepathy Nov 2020

- Built a synthetic telepathy device with a silent-speech interface that takes in user EMG signals from the jawline area and predicts if the user is thinking ‘yes’ or ‘no’ with 90% accuracy.
- Placed 1st in the U.S. at the NeuroTechX Student Clubs Competition.

Eagle Scout Aug 2018

- Obtained the highest attainable achievement in the Boy Scouts of America program (among top 4%)

SKILLS, TOOLS, AND TECHNOLOGIES

- **Electrical:** MATLAB, PSpice, OrCAD Capture, Allegro PCB Editor, Ansys Mechanical, 32-bit Microcontroller (UNO32 Microchip), FPGA (Basys 3), Hardware Debugging, DC-DC Converters, PCB Debugging, Embedded Communication (UART, USB), Soldering, Oscilloscopes, Signal Generators, Power Supplies, DMMs, Spectrum Analyzers, Gaussmeter
- **Software:** Java, Python, C, Verilog, Linux, Git, Palantir Foundry (Data ETL)
- **Mechanical:** SolidWorks, UltiMaker Cura, Ender-3 V2 (3D Printing)

EXPERIENCE

Asset Health and Performance Center Engineering Intern Jun 2021 - Sep 2021

Pacific Gas and Electric | San Francisco, CA

- Leveraged GIS to provide informative data on future EFD (Early Fault Detection) and DFA (Distribution Fault Anticipation) line sensor technology installments across Northern California’s electric grid.
- Managed, led, and cross-functionally coordinated with multiple teams on compiling a voltage curtailment report on solar powered line sensor units while on a tight deadline and with little to no guidance.
- Improved the SOP for report compilation efficiency by 20% (equivalent to saving 1 hour) on Palantir Foundry through the application of root cause analysis and Process Improvement methodologies.

EDUCATION

University of California, Santa Cruz | B.S. in Electrical Engineering Sep 2019 - Jun 2023

- **Clubs:** NeuroTechSC, MEP
- **Coursework:** Logic Design, High-Speed Digital Design, Analog Electronics & Circuit Design, Signals & Systems, Feedback Control, Embedded Systems, Physics, Probability Statistics, Properties of Materials, Communication Systems, Energy Conversion & Control, Adv. Renewable Energy Sources, Electromagnetic Fields & Waves, Senior Design Capstone