

James Ensminger

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EXPERIENCE

Applications Engineer

Nov 2023 - Present

PowerFlex | Mountain View, CA

- Electric vehicle supply equipment as well as load management system R&D, hardware testing, application support, and technical documentation management.

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.

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.
- Collaborated on the PCB design and layout of the power delivery system 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.

EDUCATION

University of Southern California | M.S. in Electrical Engineering

Aug 2025 - May 2027 (Expected)

- **Clubs:** coming soon!
- **Coursework:** Modern Solid-State Devices, Power Systems

University of California, Santa Cruz | B.S. in Electrical Engineering

Sep 2019 - Jun 2023

- **Clubs:** MEP, NeuroTechSC, SlugSat, UCSC IEEE
- **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

SKILLS, TOOLS, AND TECHNOLOGIES

- **Electrical:** Circuit Design (OrCAD Capture, PSpice), PCB Design (Allegro PCB Editor), Hardware Debugging, MATLAB, Microcontrollers, FPGA (Basys 3), PLC programming (IEC 61131-3), Modbus TCP, Computer Networking, Lab Equipment (Soldering, Oscilloscopes, Signal Generators, Power Supplies, DMMs, Spectrum Analyzers, Gaussmeters)
- **Software:** Java, Python, C, Verilog, PowerShell, Linux, Git, Palantir Foundry (Data ETL)
- **Mechanical:** SolidWorks, 3D Printing, Ansys Mechanical