

James Ensminger

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EXPERIENCE

Applications Engineer

Nov 2023 - Present

PowerFlex | Mountain View, CA and Los Angeles, CA

- Enhancing EVSE communication reliability through bench testing, innovative tooling, and data-driven R&D.
- Advancing distributed control system design iterations with the HW team for optimized power distribution, networking, and telemetry between onsite network devices and DERs.
- Leading the development, launch, and maintenance of customer-facing and internal-facing technical documentation platforms on PowerFlex HW and SW products along with documentation creation.

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 and cross-functionally coordinated multiple teams to compile a quarterly voltage curtailment report on solar powered line sensor units, while taking initiative to reduce data compilation processing time by 20% on Palantir Foundry (saving 1 hour) through root cause analysis and process improvement methodologies.

PROJECTS AND ACHIEVEMENTS

Multi-Device Wireless Charger

Dec 2022 - Jun 2023

- Created a Qi standard wireless charger with increased freedom of placement for multi-device charging, an intuitive visual charge indicator determined by stakeholders, and an efficient heat management system enabling it to operate 5°C cooler than chargers on the market.

Ground Bounce PCB Test Circuit

Mar 2022 - Jun 2022

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

Boolepathy

Sep 2020 - Oct 2020

- Built a synthetic telepathy device with a silent-speech interface to take EMG signals from a user's jawline area and predict the user's intent ('yes' or 'no') with 90% accuracy.
- Placed 1st in the U.S. at the NeuroTechX Student Clubs Competition.

EDUCATION

University of Southern California | Master of Science in Electrical Engineering

Aug 2025 - May 2027

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

University of California, Santa Cruz | Bachelor of Science in Electrical Engineering

Sep 2019 - Jun 2023

- **Clubs:** MEP, NeuroTechSC, SlugSat, UCSC IEEE
- **Grader:** ECE178 and ECE224 Semiconductor Device Electronics [Winter Quarter 2023]
- **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, Soldering, Lab Equipment (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