

# Jeremy Cope

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## EDUCATION

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**University of Colorado Boulder**  
Bachelor of Science in Electrical Engineering  
GPA: 3.233

Boulder, CO  
Expected Dec 2026

## SKILLS

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**Hardware & Electronics:** PCB Design (Altium), RF Design, Embedded Systems, FPGA, Soldering, 3D Printing, Oscilloscopes, Manufacturing

**Programming & Simulation:** C/C++, Python, MATLAB, Verilog/VHDL, RISC-V Assembly, LTspice, SaturnPCB, Altium

**Software & Web:** Next.js, Tailwind CSS, HTML/CSS, JavaScript, Git, Linux

## ENGINEERING PROJECTS

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### Mobile PLSCX Wideband Scanning Spectrometer (Senior Capstone)

*Aug 2025 – Apr 2026*

- Awarded “Most Ambitious Project” at the engineering design expo for developing a vehicle-mounted multi-band hyper-spectral radiometer.
- Engineered a custom mechanical positioner system using carbon fiber beams and bearing assemblies capable of withstanding 96 lbs of radial load.

### Low-Noise “Golden” Arduino & VRM Instrumentation

*Apr 2026 – May 2026*

- Designed a custom 2-layer Arduino clone with advanced noise mitigation, ground bounce reduction, and EMI control.
- Developed a 4-layer ATmega328 VRM instrumentation device featuring DACs/ADCs to measure Thevenin resistance, minimizing current loops via stitched ground planes.

### RISC-V Assembly MIDI Player

*Dec 2025*

- Programmed a MIDI player on a Longan Nano GD32VF103 using bare-metal RISC-V assembly.
- Interfaced a 4x4 matrix keypad and an internal DAC to output synthesized C, D, E, and G notes to a speaker.

### IoT Environmental Monitor

*Aug 2025*

- Developed a cloud-connected environmental monitoring system using an ESP32, integrating BME680, PMSA0031, and INA219 sensors.
- Transmitted real-time temperature, humidity, air pressure, and CO2 data to a ThingSpeak dashboard.

### Pwnagotchi WittyPi4L3V7 Plugin

*GitHub: smackanoodle*

- Authored custom software in Python for integrating battery information and button functionality into the Pwnagotchi project for custom hardware using the WittyPi4L3V7.

## EXPERIENCE

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### Nutraceutical Startup

*Controls / Automation Engineer*

*Denver, CO*

*Jan 2025 – Feb 2025*

- Designed and implemented a PLC system for a Rockwell Automation magnetic conveyor belt to automatically dispense custom vitamin mixes.
- Developed control logic and validated system functionality before collaborating with PCB designers to integrate network-connected ESP32 modules for automated system control.

### Food Service

*Customer Service*

*Denver, CO*

- Maintained high-pressure workflow, resolving customer conflicts and ensuring operational efficiency in a fast-paced environment.