Evan Poon

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Education

University of Colorado, Boulder — GPA: 3.6
B.S. Electrical and Computer Engineering | B.S. Applied Mathematics — May 2026 (Expected)
M.S. Computer Engineering — May 2027 (Expected)

Skills

- Embedded Systems: RTOS (C/C++), Embedded Python, FreeRTOS, STM32/ESP32 development, serial communication, real-time debugging
- Hardware Design & Testing: Circuit design and simulation (SPICE), PCB layout, bench instrumentation (oscilloscope, multimeter), rapid prototyping
- Software & Tools: Python (NumPy, SciPy, Matplotlib), MATLAB, Linux, Git, Agile workflows, technical documentation

Experience

Senior Capstone (Qualcomm) — **August 2025 – Present**
Lead Firmware Developer — *Boulder, Colorado*

- Designed and implemented Real-Time firmware for a Teensy 4.1 Microcontroller to measure RF connectivity and analyze pathloss in coaxial networks.
- Wrote a Python CLI wrapping a USB Driver for light-weight and scalable control and interface with the pathloss analyzer.
- Worked under supervision of Qualcomm with a team of cross-disciplinary senior engineering students to design, build, debug, and document the product in accordance with Qualcomm's project goals.

Project Trinity — **May 2023 – August 2025**
Undergraduate Research and Development — *Boulder, Colorado*

- Wrote and maintained software for a virtual reality training simulation to study learning and skill retention in astronauts.
- Presented weekly design reviews to communicate development progress and integrate advisor feedback into simulation design and implementation.
- Authored detailed technical documentation outlining software architecture and experimental procedures to support future collaboration and reproducibility.

Freelance — **August 2023 – August 2024**
Software Design/Development — *Boulder, Colorado*

- Developed a scalable MERN webstack codebase for a client's website and managed project milestones through an Agile development process from concept to deployment.
- Met routinely with the client to convey technical progress and design decisions to non-technical stakeholders, incorporating feedback to guide iterative development.

Projects

Embedded Labyrinth Game | Low-Level C/C++, RTOS, Agile, Unit Testing, Debugging — **Spring 2024**

- Wrote peripheral drivers in C and leveraged FreeRTOS to build a Labyrinth game on an STM32 microcontroller with an LCD screen.
- Following an Agile software development life cycle with development sprints and key stages like design reviews, implementation milestones, and iterative unit testing to ensure quality and functionality.

Robot | Circuits, SPICE (SIMetrix), Waveforms — **Fall 2024**

- Built an analog control loop for a robot car including speed control, motor driver, and power supply modules.
- Used SIMetrix SPICE, Oscilloscopes, and Multimeters to simulate, test, and verify designs.

Electrical and Computer Engineering Course Work

Embedded Software Engineering – ECEN 2370
Real-Time Operating Systems – ECEN 3730
Digital Logic with Verilog Design – ECEN 2350
Circuits as Systems - ECEN 2260
Electronic Design Lab – ECEN 2270
Electromagnetic Fields and Waves - ECEN 3400
Programming Digital Systems – ECEN 3350
Computer Organization – ECEN 3593
Advanced Computer Architecture – ECEN 4693
Numerical Methods and Scientific Computing – APPM 4600
Information Theoretic Deep Learning – ECEN 5002
Foundations of Quantum Engineering – ECEN 5915