

ETHAN POPE

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EDUCATION

The University of Texas at Austin

Bachelor of Science in Electrical and Computer Engineering (Computer Architecture & Embedded Systems)

August 2025 - May 2028

Relevant Coursework: Circuit Theory, Digital Logic Design, Embedded Systems Honors, Software Design & Implementation I Honors, Differential Equations, Linear Algebra, Discrete Math

SKILLS

Languages: C++, Python, Java, C, ARM assembly, Verilog, Swift

Embedded & Hardware: STM32, ESP32, ARM Cortex-M0+, RTOS, FPGA, Linux, PCB Design (KiCad, Altium Designer)

EXPERIENCE

Embedded Engineering Intern, JARDUM

Austin, Texas, *Mar 2026 - Present*

- Designed a software-configurable rotary encoder using a BLDC gimbal motor and magnetic encoder in a closed-loop PID torque controller, enabling software-defined detents and endstops with fully firmware-tunable feedback profiles
- Ported a custom RTOS from its original Cortex-M4 target down to the resource-constrained Cortex-M0+ STM32C0, implementing concurrent task scheduling as the shared firmware foundation across both encoder platforms
- Built a real-time facial recognition system on a custom Raspberry Pi CM4 edge device for a client with \$1B+ in annual revenue, using OpenCV geometric analysis to identify multiple users and trigger downstream CAN bus messages
- Led R&D, testing, and integration of controllers, keypads, and displays for marine and offroad OEM clients, including wiring harness design/fabrication and on-site customer troubleshooting

Software Engineering Intern, DELL Technologies

Round Rock, Texas, *Feb 2025 - May 2025*

- Developed a speech-to-text pipeline that translated spoken instructions into structured diagrams, integrating robotic actuation to autonomously render diagrams on a whiteboard
- Implemented robust data transfer using WebSocket and serial connections, ensuring seamless communication between software and hardware components
- Coordinated across hardware and software teams, collaborating with cross-functional engineers to validate outputs and align on deployment constraints.

PROJECTS

Two-Player Turn Based Game (C++, ARM Cortex-M0+)

- Created a turn-based game in C++ on a TI MSPM0G3507 using a peer-to-peer UART link at 115200 baud to synchronize player movement each game tick, enabling real-time updates on both devices
- Implemented state machine game loop logic, interrupt logic, and designed a partial frame buffering system to fit within the SRAM constrictions of the MCU

OBD2 BLE Vehicle Scanner (Custom PCB, ESP32, BLE)

- Built a custom ESP32-based PCB and firmware to stream live vehicle telemetry over Bluetooth Low Energy to a custom iPad app written in Swift, achieving low-latency real-time diagnostics
- Developed firmware to query OBD2 PIDs over CAN bus, and transmit parsed sensor data via BLE GATT
- Designed safe power circuitry, stepping 12V down to 3.3V, allowing the device to be powered by the vehicle

LEADERSHIP & ACTIVITIES

Boy Scouts of America, Cedar Park, Texas

Eagle Scout, February 2018 - January 2025

- Raised \$2K+ through fundraising and corporate sponsor donations; led 40+ volunteers over 2 days to design and build a renovated seating area at a local high school tennis court, culminating in earning Eagle Scout