

# Quinton Miller

[mill3257@purdue.edu](mailto:mill3257@purdue.edu) | 412-302-0472 | Pittsburgh, PA 15241 | U.S. Citizen

## OBJECTIVE

---

Seeking a Summer 2026 Electrical Engineering Internship focused on embedded systems, digital signal processing, or hardware design, with an emphasis on real-time systems and low-level implementation.

## EDUCATION

---

**Purdue University** | West Lafayette, IN | John Martinson Honors College Expected Graduation: May 2027  
Bachelor of Science – Electrical Engineering | GPA: 3.18  
Concentrations: Semiconductors & Microelectronics, AI & Machine Learning | Minor: Business Economics  
Purdue University College of Engineering – Dean’s List Fall 2023, Spring 2024  
Purdue University College of Engineering – Semester Honors Fall 2023, Spring 2024, Fall 2025  
Alpha Lambda Delta and Phi Eta Sigma Honor Societies Spring 2024 – Present  
**Upper St. Clair High School** | Pittsburgh, PA | Valedictorian Aug 2019 – Jun 2023

## TECHNICAL SKILLS

---

- Languages: C, C++, Python, SystemVerilog, MATLAB, Java, RISC-V Assembly
- Embedded & Hardware: SPI, I2C, ADC, PWM, DAC, DMA, UART, Microcontroller Systems
- EDA/Simulation: KiCad, LTSpice, MATLAB Simulink
- Libraries: Scikit-Learn, SciPy, NumPy, OpenCV, Matplotlib
- Mathematics: Multivariable calculus, linear algebra, differential equations, probability & statistics, discrete mathematics

## RELEVANT COURSEWORK

---

Signals and Systems, Digital Signal Processing, Probabilistic Methods, Advanced C Programming, ASIC Design Laboratory, Data Structures, Microprocessor Systems and Interfacing, Material Properties and Structures, Static Analysis, Electromagnetic Physics, Python for Data Science, Electrical Engineering Fundamentals, Digital System Design, Honors Introduction to Engineering

## PROJECTS

---

### Embedded Audio Processing and Playback System (C)

- Implemented PWM-based audio playback on an RP2350 microcontroller, optimizing timing and memory usage to support real-time playback and recording under constrained hardware resources
- Interfaced an I2C digital potentiometer for volume control and integrated ADC-based audio recording/playback from user input
- Developed a user interface with SPI to drive a display, dynamically rendering images based on button inputs
- Coordinated SPI, I2C, ADC, and PWM subsystems within a unified embedded architecture

### Maze Navigation Robot

- Designed and built an autonomous robot to navigate a maze using sensor feedback and control logic
- Implemented navigation and path tracking algorithms in Python
- Integrated hardware and software components for real-time decision making

### Chess Engine (C)

- Developed a chess engine in C with rule enforcement and move validation
- Implemented board representation, legal move generation, and position evaluation logic
- Focused on performance against other chess engines and algorithmic efficiency

## EXTRACURRICULAR ACTIVITIES

---

Rush Chairman–Phi Kappa Sigma Fraternity, STEM Innovation and Consulting, Volunteer–Natalie’s Second Chance Dog Shelter, Volunteer–Purdue Winterization, Brotherhood Chairman–Phi Kappa Sigma Fraternity, Sergeant at Arms–Phi Kappa Sigma Fraternity