William Lee

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Education

Mid-Atlantic Tech Institute Pittsburgh, PA
Bachelor of Science in Electrical and Computer Engineering GPA: 3.7 / 4.0
Focus on Embedded Systems September 2021 – May 2025

- Relevant Coursework: Microcontrollers, Real-Time Operating Systems, Computer Architecture, Digital Logic Design

Experience

Embedded Software Engineer Intern May 2024 – August 2024
RoboWorks Corp. *Boston, MA*

- Developed firmware in C for an ARM Cortex-M4 microcontroller to control motor drivers and read sensor data via I2C and SPI.
- Implemented a real-time scheduling system using FreeRTOS to manage multiple concurrent tasks on a resource-constrained device.
- Wrote Python scripts for a hardware-in-the-loop (HIL) testing framework, automating the validation process for new firmware releases.

Projects

Automated Plant Watering System Senior Design Project, 2024-2025

- Designing a system using an ESP32 microcontroller to monitor soil moisture levels and automatically water plants.
- Developing embedded C code in the Arduino framework to read sensors, control a water pump, and send data to a web server via Wi-Fi.

FPGA-Based Retro Arcade Game November 2023

- Implemented a Space Invaders clone on a DE10-Lite FPGA board using Verilog, including graphics rendering to a VGA display.

Technical Skills

Languages: C, C++, Python, Assembly (ARM), Verilog
Microcontrollers: ARM Cortex-M, ESP32, AVR (Arduino), PIC
RTOS: FreeRTOS, Zephyr
Libraries and Tools: Git, Make/CMake, GDB, I2C, SPI, UART, PlatformIO, MATLAB, LabVIEW