NOAH LEE

noahlee0514@gmail.com — 954-501-1598 — linkedin.com/in/noahilee/

SUMMARY

Embedded Firmware Engineer with a Computer Engineering background, specializing in robust and secure embedded systems for industrial automation. Skilled in developing high-performance solutions using C, Rust, and Dart/Flutter across RTOS and bare-metal environments.

EDUCATION

Rose-Hulman Institute of Technology *Terre Haute, IN*
Bachelor of Science in Computer Engineering Graduated: May 2024

PROFESSIONAL EXPERIENCE

FACTS Engineering LLC July 2024 – Present
Design Engineer *New Port Richey, FL*

- Led full-cycle development of new I/O modules and redesigns for use in industrial automation, including part selection, schematic design, and firmware.
- **Industrial Modbus TCP Remote I/O** (November 2024 – Present): Developed FreeRTOS-based firmware in C for a remote Modbus TCP I/O server.
  - Authored comprehensive, user-friendly technical documentation for the Remote I/O system, leveraging Markdown and Sphinx (via Jupyter-book) for improved accessibility.
- **Remote I/O Configurator (Flutter)** (November 2024 – Present): Implemented UDP scanning for device discovery and utilized TCP/IP protocols for configuring device settings, including IP addresses and modular I/O parameters.
- **Rust PLC Driver for RP2350** (September 2024 – November 2024): Ported our open-source Arduino PLC driver into Rust, re-implementing core logic as hardware-agnostic code utilizing the Embassy (async) framework.

Milwaukee Tools June 2023 – August 2023
Firmware Engineering Intern *Brookfield, WI*

- Developed code in C and C++ to modernize firmware with new features for use in new hardware.
- Created and executed a detailed test plan to validate feasibility and implementation of new features.

PERSONAL PROJECTS

"AudSpec Pico" Summer 2022 – Winter 2022
Multicore Audio Spectrometer on RP2040 Board

- Written in Arduino/C++ for Raspberry Pi Pico board; interfaces with peripherals such as 3.5mm audio, I2C display, and ADC GPIO for FFT calculations to display audio data by frequency.

TECHNICAL SKILLS

Languages	Embedded C, Rust, Python (Scripting), Dart (Flutter), Markdown
RTOS	FreeRTOS, Rust Embassy
Hardware	MCU (STM32, RP2350), FPGA, Hardware Debugging
Protocols & APIs	SPI, I2C, EtherCAT, Modbus TCP, UDP
Tools	Git, Pads Logic, Altium, Jupyter-book