

Objective

To work in an environment that allows me to help develop innovative products and features, while improving my skills in embedded programming, electrical engineering, and software design. I'm particularly interested in firmware and driver design.

Education and Awards

Rice University, Electrical Engineering

- Expected graduation May 2021
- 3.81 GPA

Programming Experience

- Proficient in C, Objective-C, Python, Java, and JavaScript
- Familiar with ARM Assembly

Tools/Standards

- Proficient with Linux command line and administration, UEFI/EDK2, and MongoDB
- Familiar with RTOS concepts, SPI, and UART
- Familiar with asymmetric cryptography libraries and standards

Awards

- Eagle Scout (2016)

Work Experience

Dell Technologies (Summer 2020)

- Developed additional reliability tests for embedded controller
- Gained experience with a RTOS, as well as JTAG debugging tools
- Enabled web-based management of peripherals within product assurance lab

Rice Bikes Operations Manager (Fall 2019- Present)

- Handled inventory and ordering logistics for student run bike shop
- Restructured ordering processes to minimize waiting time for special part orders

Dell Technologies (Summer 2019)

- Gained experience with UEFI Firmware development, including SMM Drivers
- Knowledge of the UEFI boot process and associated security considerations
- Worked with Asymmetric Cryptography standards including RSA-PSS

Projects

Serial Logging System (C)

- Developed TI RTOS application for Cortex-M4F processor to log serial input to an SD card
- Supports command line over second serial connection, and makes use of several RTOS tasks

iOS Messaging Reverse Engineering (Objective-C, C)

- Designed program to relay iMessage content to remote server using MQTT
- Worked to reverse engineer iMessage framework by dumping headers and using LLDB

References

Marcin Nowak – Marcin_N@dell.com, Dell Technologies

- Project architect for summer 2020 project within Dell

Brad Sprague - bsprague@austin.rr.com

- Scoutmaster of my troop, as well as my Eagle Scout advisor