Thomas Rind

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EDUCATION

Tufts University

Masters of Science: Computer Science 2019 GPA:3.78
Bachelor of Science: Computer Engineering 2018 GPA:3.45

Relevant Courses Internet of things, Operating Systems, Web Programming, Computer Architecture, Data Structures, Algorithms, Machine Learning

SKILLS

Programming: C/C++, Python, RTOS, Multithreading, Socket Protocol, Mbed, Mesh Networking, Arduino, Assembly, MATLAB, QT, JavaScript, HTML/CSS

Systems: Linux, Git, Continuous Integration, Arm Processors, Debugging, BLE/Bluetooth, RaspberryPi, IoT

WORK EXPERIENCE

DMC
Chicago, Il
Aug 2019 – Present

Systems Engineer

• Worked in cross-country team to develop a low latency, high throughput, radio mesh network stack using Google's opensource implementation of Thread, OpenThread.

• Set up continuous integration on Git Labs and tests using Mbed's Icetea testing framework and Python for automating hardware & software performance testing, allowing for identification and monitoring of latency and throughput milestones.

• Built multithreaded environment to process Openthread UDP messages and communicate between client devices and the radio co-processor in C++ in order to keep network performance high.

• Created Communication Library API for customer client devices to facilitate easy integration of new device types into mesh network. Also set up pub/sub middleware model for simple message multicast routing.

• Designed and integrated secure session key derivation for network and application messages to prevent 3rd parties from copying design. Designed secure boot for firmware validation.

• Worked on VoIP LWIP Network implementation with echo cancellation library. In addition set up FreeRTOS threads to process UART, MQTT requests and responses, and control various other drivers using event mailboxes to ensure no messages were missed.

• Reduced memory and power consumption on BLE devices, reducing errors and increasing battery time. Set up various C++ modules to control data storage.

• Participated in status talks to clients to keep up to date on projects and to get and provide input on preferred implementation.

• Managed time between prototyping client products and supporting and maintaining older projects to prevent units already in production from breaking.

• Completed hardware checkouts to verify or identify and rework PCB design issues for next board revision.

American Robotics
Marlborough, MA
May 2018 – Aug 2018

Software Development Intern

• Designed battery controls system to handle data transfers, and charging for autonomous drone-assisted farming.

• Reduced chances of battery related crashes through code updates.

• Using Python and matplotlib, created customizable redis graphing interface allowing stored data metrics to finally be analyzed.

Draeger Medical Inc.
Andover, MA
May 2017 – Aug 2017

Software Development Intern

• Implemented a demo USB CDC client application on micro-controllers for newly developed patient monitoring system for OEMs to develop with.

• Communicated with cross functional team in agile environment.

• Built debugging tool with QT to act as a host, display all signals dynamically, and record logs to let OEMs develop without the need to a full patient monitor.

MultiSensor Scientific
Somerville, MA
Feb 2017 – May 2017

Software Development Intern

• Replaced outdated UI for gas detecting camera with team of 4.

• Built tablet user interface in QT to wirelessly communicate with Raspberry Pi to stream camera and sensor info through TCP Sockets.

• Iterated through versions of interface to make use more intuitive and easy.

Tulip Interfaces
Cambridge, MA
Jun 2016 – Aug 2016

QA Intern

• Decreased software defects and increased the hardware construction with streamlined manufacturing and QA.

• Performed weekly QA tests of web platform to determine if latest builds should be pushed to production.

• Reduced debugging time with implementation of hardware test bench and power cycling tool.