

## EXPERIENCE

### *Software Engineer*

July 2018 – Present

IQ Inc., Monroeville, PA

#### Experience Obtained:

- Contributed to the development and maintenance of safety-critical Automatic Train Control Systems in C++ for locomotives and city metros around the world
- Developed user interface systems in Angular used for management of Crew Members responsible for maintenance and maneuvering of city metro trains
- Regularly exercised essential software engineering practices in Agile environment including design reviews, coding standards, code reviews, source control management, build processes, and testing

### *Embedded Software Engineer Intern*

September 2017 – May 2018

Truck-Lite, Falconer, NY & Erie, PA

#### Experience Obtained:

- Contributed to research, development, and investigation of technology for transportation telematics involving IoT communication devices
- Developed firmware code for microcontrollers in C for sensors using RF, Bluetooth 5, NFC, and RFID communication to operate in a heavy-duty environment
- Ran controlled hardware tests on PCB pre-production boards with industrial-grade electrical, heat, and radio frequency test machines to verify compliance with PCB ISO standards

### *Electrical Engineer Intern*

August 2013 – August 2014

Bossa Nova Robotics, Pittsburgh, PA

#### Experience Obtained:

- Developed analog and digital circuits for robotics and communications platforms with hands-on experience in schematic capture and PCB layout
- Developed firmware for motors, servos, and other electromechanical devices
- Fluency in Python and shell scripts in a Linux production environment
- Designed and developed 3D printed parts using Solidworks and Autodesk Inventor
- Ran tests on robotic prototypes and provided analysis and feedback to lead engineers

## EDUCATION

*Bachelor of Science in Electrical Engineering*, Pennsylvania State University, Erie, PA

Semester of Graduation: Spring 2018 (May 2018)

Dean's List Semester 6

Concentrations: Embedded Systems; Control Systems; Mechatronics; Full-Stack Web Development; Network Communications; RFID/Bluetooth; Internet of Things (IoT)

## SKILLS

### **Embedded Systems, Schematic Design and PCB Layout:**

- Bare Metal and RTOS microcontroller applications in Assembly, C, C++, and Rust
- Experience with large scale projects using make-files and code organization with repositories
- Altium Designer; Experience with full-cycle PCB development process

**Hardware Debugging Tools:** Oscilloscopes, Multimeters, Spectrum Analyzer, Logic Analyzer

**Control Systems:** Classical and Modern

- Develop tests to formulate transfer functions of various electronic and mechanical systems
- Experience customizing LQR and PID controllers for electromechanical systems using MATLAB

**Full-Stack Web Development:** Angular architecture using RxJS State Management solutions

- Experience building cloud applications on AWS, Firebase, and Azure
- Attended ng-conf in May 2019, Salt Lake City, Utah

**Mobile Development:** Cross Platform mobile application solutions using Flutter