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OBJECTIVE

Computer engineer from Georgia Tech who specializes in embedded hardware and software development. Has a strong background in high and low level firmware development, hardware design, low power wireless, and feedback control systems. Experience designing and developing both consumer and industrial electronics.

EXPERIENCE

February 2020 – August 2023 **ArgonFDS/FDS Avionics Corp.** Alpharetta, GA

Senior Research & Development Embedded/Software Engineer

- Developed and maintained C/C++ firmware for high end aviation equipment and avionics.
- Created a complete platform for wireless distribution of live IPTV & DRM licensed content over industrial wireless equipment.
- Developed Android and iOS mobile apps using Xamarin/C# that had deep integration with standard aircraft flight management systems.
- Experience with aircraft systems and protocols such as ARINC.
- Created python-based quality assurance tools allowing automated testing to help speed up work in production decreasing overhead costs by reducing time spent testing finished products.

October 2017 – November 2019 **Interactive Technologies** Olathe, KS

Computer/Electrical Engineer

- Developed C/C++ firmware for microcontrollers to enable local logical control and wireless communication with other embedded hardware and Android Apps.
- Maintained legacy hardware that utilized FreeRTOS in its firmware to satisfy new requirements.
- Created a multithreaded MBED based platform to manage several wireless protocols simultaneously while maintaining real time communication via various I/O devices.
- Developed Android Apps in C# using Xamarin to interface with embedded hardware as well as perform OTA programming.
- Developed extremely low power wireless remote controls and improved firmware on legacy controllers cutting power consumption down to less than 4μA standby current.
- Extensive use of wireless protocols such as Bluetooth LE, ANT, and SMAC in a wide variety of applications.

January 2017 – October 2017 **Paranoia Quest** Buford, GA

Computer/Electrical Engineer

- Developed C/C++ firmware for microcontrollers to provide logic and control to various puzzles and interactive props.
- Create a C# software suite for staff to monitor and improve the customer's experience.
- Used MBED to manage concurrent ethernet traffic and I/O sensor communication.
- Set up and managed the company network systems using virtualized Linux servers. Provided RADIUS authentication for both network and application access. Centralized all information to keep software on all company terminals in sync.

SKILLS

- Experience using microcontrollers in real world projects using various sensors and mechanical outputs as well as implementing control systems logic. Examples including the KW41Z, ARM Cortex-M based platforms, ARM based ST Micro microcontrollers, and Nordic platforms to evaluate Bluetooth performance.
- Experience with various multithreaded RTOS systems include MBED and FreeRTOS
- Practical knowledge of various wireless protocols such Bluetooth LE, ANT Wireless, and SMAC.
- Developed wireless amplification circuitry to enable low power protocols like ANT to reach distances well beyond their intended specifications.

- Experience in Android and iOS App development in C# that can interface with embedded hardware over Bluetooth LE.
- Familiar with controller protocols including SPI, I²C, Serial/UART, CAN, and many more.
- Exposure to Software Defined Networking and various networking protocols including OSPF, BGP, and others on Cisco, Juniper, and Aruba systems.
- Experience with C/C++, C#, Python, PHP, HTML, and MATLAB with exposure to VHDL, Ruby, SQL, and CSS.
- Proficient with both Windows and Linux as well as both server and embedded Linux distributions.
- Capable in production software suites including IAR EWARM, Keil uVision, Altium, Eagle, Xamarin Android, Code Composer Studio, Photoshop, After Effects, Premiere, Acrobat, and the Microsoft Office software suite.

EDUCATION

2013 – 2015 **Georgia Institute of Technology** Atlanta, GA

- B.S. Computer Engineering
- Overall GPA: 3.14/4.0

2010 – 2012 **Southern Polytechnic State University** Marietta, GA

- Regents' Engineering Transfer to Georgia Tech for Computer Engineering.
- Overall GPA: 3.36/4.0

PROJECTS

December 2015 **Worker Safety and Monitoring System** Georgia Tech

- Designed a system for real time tracking of a variable sized array of node devices.
- The system consisted of several modules including a GPS, microcontroller, and wireless transceiver.
- Developed firmware in C/C++ for an ARM MCU embedded in a custom designed PCB.