

Relevant Experience

NewAE, Senior Embedded Engineer

- Oct 2019-
Mar, 2020
- Designing embedded software for various security tools with devices focused on penetration testing and fault injections.
- Ported an FPGA secure bootloader to a low-cost ARM micro with Python support tools
 - Developed an XY Stepper Motor positioning micrometer drivers on a FreeRTOS adding GCode scripting
 - Programming extensively in C, Python and other languages as needed
 - Provided customer support and acting on feedback

KSR Automotive International, Embedded Software Engineer

- May 2016-
Oct. 2019
- Member of the development team for an integrated belt alternator starter, an ATV electronic power steering unit, software lead for a steering angle sensor and a smart thermal management valve controller. Compliant to ISO 26262
- Programmed extensively in C, C# and Python heavily utilizing the CAN/LIN stack for implementation
 - Prototyped circuits mainly focused around SPI, SPC, and SENT protocols often soldering and troubleshooting using PicoScope tools
 - Developed a strong intuition with Infineon, Microchip, Renesas, and Melexis products
 - Delivered consistently optimized programming with strong emphasis on highly reliable and reusable design methods, tasks consisted of embedded firmware development, user interfaces, and internal library development
 - Contributed documentation for Software Report Bulletins and failure analysis reports

Bell, System Integration Specialist

- May 2014-
Sept. 2015
- Identified and documented application defects. Projects included hardware testing and new firmware evaluation.
- Responsible for technical documents and test plans detailing findings using Sharepoint.
 - Delivered a frontend application for equipment management. Designed for ease of use and automation, featuring a full backend implemented with CentOS and a secure FTP server.

Technical Background

- Languages
- C (RTOS, bare metal, FPGA, simulation), C# (GUI, test scripts), Assembly (NIOS II), Python (GUI, parallel), Matlab (DSP, modelling, simulation), Bash (scripting, automation), JSON (data logging, web interactions), VHDL (Optimization, pipelining), Latex (mathematical documentation)
- Tools
- Windows (Enterprise, Server), Linux/Unix/OSX, Cisco IOS, DD-WRT, OS X, QNX, Tempo, PSpice, Solidworks, AutoCAD, Putty, Vivado, git, SVN, MS Office, Adobe Suite, Quartus, Momentics, VMWare, Virtual Box, Busybox, Ixia, iperf, netcat, Wireshark, Netmap, Nginx, Elasticsearch, Kibana, Logstash
- Electrical
- Filters, Instrumentation, Relays, Amplifiers, Antennas, Transistors, Transformers, Safety Critical, Logic Gates, Controls, redundant fail operate mechanisms, hardware-based interrupts and timers
- Networking
- SPI, SPC, SENT, CAN, LIN, XCP, UDS, TCP/IP, OSPF, Subnetting, packet engineering, troubleshooting, configuration, performance analysis

Education

- 2011-2015
- Bachelor of Science in Computer Engineering, University of New Brunswick
 - Notable Achievement: 1st Place in Senior Engineering Capstone Software Category, 2015
- May 2016
- OMNEX DFMEA Training

Past Responsibilities and Side Interests

- Robotics
- VP of Electronics at UNB for 2015, integrated modular wireless field of view cameras into competition, upgraded microcontrollers and hardware. Assisted with software engineering and event planning.
- EAC
- Co-chair of Marine Action Team; developing resources, planning film screenings, events, and preparing educational resources for schools.
- The Baron
- UNBSJ Student Newspaper, Music columnist 2012, published three articles per week. Additionally, provided photography services for local concerts.
- Katy's Cove
- Held position from 2011-2013 in St. Andrews, NB as manager and lifeguard. Dealt with customer and employee concerns, canteen cash flow, water safety, property maintenance, graphic design, and events.
- Photographer
- Mainly worked with live performers ranging from DJ nightlife photography, to small business owners. Edited photos using Adobe Light Room.