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Active Secret DoD security clearance

Work Experience

- **SRC, Inc.** — Syracuse, NY
  Embedded Software Engineer — *October 2018 - Present*
  - Digital Signal Processor (DSP) SoC lead for software and board bring-up on our R&D 2nd generation Counter Improvised Explosive Device (CIED) prototype hardware.
  - Took initiative in becoming the subject matter expert for DSP development on our cross-functional team, and became responsible for overseeing other engineers contributing to DSP development.
  - Contributed to the majority of the design, implementation, and documentation of RTOS driver-level code, Linux kernel modules, and board support packages.
  - Worked with project management and hardware designers to choose and purchase optimal DSP hardware, and assemble all parts into a single hardware platform for test and development (T&D) ahead of prototype production.
  - Collaborated with the R&D hardware team to design the high-level communication networks and protocol stacks between DSP SoCs and other SoCs on the board, and then implement drivers and testers for PCIe, UART, Ethernet, Hyperlink.
- **SRC, Inc.** — Syracuse, NY
  Software Engineer — *November 2017 - October 2018*
  - Worked in a large cross-functional team (software, systems, digital, test) to design, develop, and support mission-critical embedded software for SRC's best-in-class Counter-UAS (CUAS) drone defense solution.
  - Led the ground-up development of a new software module to control a custom-built embedded Software Defined Radio (SDR) addition to our CUAS system, starting from requirements all the way to field-test.
  - Took responsibility for a rehaul of the software build system, deployment system, and unit testing infrastructure for our codebase; including full-time tasking and mentoring of a junior engineer.
  - Wrote new functionality, fixed bugs, and debugged hard-to-pinpoint issues in our C++ codebase and the embedded Linux envionment.
  - Was responsible individual (RI) for software development and support for our Air Force customer, developing new features and integrating existing ones from other software baselines.
  - Worked directly with military customers and integrators at multiple in-field locations, often as the sole representative software engineer during testing and demo events.
- **University Dissertation, University of Edinburgh** — Edinburgh, United Kingdom
  Student — *Sept. 2016 - Jul. 2017*
  - Developed a highly optimized implementation of a predictive machine learning technique (Gaussian Process regression) using parallel triangular solvers written in C++ and OpenCL, designed specifically for the ARM Mali GPU (commonly found in many smartphones).
  - Implemented and tested key optimization techniques for the Gaussian Process regression specific to the Mali GPU architecture, across a range of critical metrics.
  - Pinpointed critical bottlenecks caused by the OpenCL 1.1 scheduling model that had, at the time of writing, not been presented in existing publications.

Skills

Languages: C/C++, BASH, Java, Python (intermediate), SQL, OpenCL, Matlab (basic), Verilog (very basic)

Operating Systems and Deploy Systems: Linux, Embedded Linux, SYS/BIOS (RTOS), Bamboo, Docker

Technologies: Experienced with cross-compiler toolchains, Version control (Git, Perforce), Wireshark packet capture, UML software diagramming with Visio, heavy VIM user (and experienced with a variety of common IDEs), extensive experience using LaTeXfor documentation, experience using lab bench equipment (signal generators, oscilloscopes, etc).

Education

- **University of Edinburgh** — Edinburgh, United Kingdom
  B.S. Double Major Software Engineering & Electronics Engineering — *2013-2017*
  - Senior Thesis: Optimization of Gaussian Process Regression Implementations for Integrated GPUs