Brendan Arciszewski

www.brendanarciszewski.ca

Summary of Qualifications

- Designing APIs in C, C++, & Python for use in embedded systems, by users and developers
- Discovering documentation; using CLIs, RPCs, *nix systems, Microsoft Office and Microsoft Windows

Experience

Infinera Corp. — *Ottawa, ON*

Firmware Engineering Intern — *May 2020 - Present*

- Designed intuitive and accessible interfaces to devices, so that users can quickly identify and report device configuration and programming errors, by using gRPC, Protocol Buffers, and the Wt libraries from C++
- Automated and consulted on QA tasks by parsing and retaining additional information; so standardized reports for easy analysis of testing can change priorities; so that debug info is accessible across codebase
- Reported on use of asynchronous and threaded concurrency in Python to improve embedded system tests
- Reduced surface area of software regressions by identifying opportunities and requesting time to create fixes

Government of Canada — *Ottawa, ON*

Software Developer — *September 2019 - December 2019*

- Automated validation of a tunable capacitor by building a Linux SPI program in C, with defensive programming, unit tests, mocks, Valgrind, and debuggers to ensure correctness and memory safety
- Performed package upgrade to reduce build configurations after evaluating size, build, and runtime cost of dependencies; created custom Buildroot package in embedded codebase
- Tracked hardware by creating a Raspberry Pi GUI with barcode scanner and touchscreen inputs, using Qt QML
- Maintained changelogs and documentation throughout each commit so users can track the status of each release

Software Developer — *January 2019 - April 2019*

- Prevent incorrect builds and automate software Quality Assurance (QA) by analysing and improving interface description (IDL) files, using Test-Driven Development (TDD) and Jenkins Continuous Integration (CI)
- Reduced execution time by 80% (to under 10s) to improve user experience (UX) by incorporating caching into a Django, AngularJS, Bootstrap, jQuery, and Flask web application
- Designed an OpenAPI-described REST service, using Python, to communicate a standard API to many endpoints

Electrical Contacts Ltd. — *Hanover, ON*

Manufacturing Engineering Intern — *April 2018 - August 2018*

- Debugged PLC setup, discovered problems, and then consulted with colleagues to implement solutions
- Consulted operators and led meetings with management to fix manufacturing process problems
- Gathered data and created planning documents using Excel so that costs and lead times are easily retrieved

Engineering Student Teams

President (Robot in 3 Days Team Ontario) & Technical Lead (FIRST Robotics Team 781)

- Used control theory with OpenCV, encoders, and IMUs to control drivetrains and shooting systems
- Designed and built a robot to follow lines and play sound based on grayscale output within a team of five
- Comprehensively documented the robot, its design and strategy process, including the Gantt chart and BoM
- Worked with other leaders to debug Java, co-lead move to Git, mentor and develop strategies

Education

University of Waterloo — *Waterloo, ON*

Honours Mechatronics Engineering, Co-op (BASc) — *2017 - 2022 (Expected)*