

SKILLS

Languages

C, C++, Python, JavaScript, MATLAB, Bash, Objective C, Lua

Technologies

LLDB/GDB, Vim, Linux, Git, SVN, Perforce, Make, Jenkins, Regex

Lab Experience

DMM, Oscilloscope, Function Generator,
Basic Circuit Design, Soldering

CAD Software

EAGLE, SolidWorks, AutoCAD

EXPERIENCE

Embedded Software Developer — Fitbit Inc, Kitchener Ontario

Sep. - Dec. 2017

- Investigated and fixed firmware bugs, integrated the JerryScript interpreter with C operating system calls
- Tested changes with unit tests, wrote JavaScript test applications, and crafted potentially malicious files

Software Developer — NVIDIA Corporation, Toronto Ontario

Jan. - Apr. 2017

- Replicated Windows function calls in C for a Wine-like library to help port games to the Shield TV console
- Fixed game-side issues and added features such as automatic game controller selection

Software Developer — Dejero Labs, Waterloo Ontario

May - Aug. 2016

- Designed and tested lightweight, cross-platform UI framework with C++, Boost, OpenGL, and Cairo
- Developed multi-threading support using Boost, implemented security hardening on iOS app with mitmproxy

Mobile Software Developer — Dejero Labs, Waterloo Ontario

Sep. - Dec. 2015

- Implemented new features and bug fixes in an Objective C/C++ live video iOS app
- Reworked audio device handling to improve reliability, overhauled UI and ported core functionality to OpenGL

Software Developer — Mozzaz Corporation, Waterloo Ontario

Jan. - Apr. 2015

- Developed and tested an Apache Cordova app using HTML, CSS, and JavaScript in an Agile environment
- Found various security issues, set up automated testing from scratch using Robot Framework and Jenkins

PROJECTS

Luobot Automatic Plant Waterer

2017

- Designed circuit for an ATtiny85-based plant watering robot, built and debugged hardware on protoboard
- Used Arduino language to write firmware that waters plants based on soil moisture, lighting, and water left

8asil CHIP-8 Interpreter

2017

- Created a small, portable Chip-8 instruction set interpreter in C that runs on macOS with a basic Makefile
- Built the desktop implementation with the SDL2 library for key input and displaying graphics

Embedded Hunt the Wumpus Clone

2016

- Wrote a multi-threaded Hunt the Wumpus clone for the ARM Cortex-M3 based Keil MCB1760 board
- Designed and implemented buffered drawing system, random map generation, and animations

WatSat Communications Antenna PCB

2016

- Designed PCB for patch antenna and pi matching network for the WatSat student team
- Matched antenna impedance using a network analyzer

EDUCATION

University of Waterloo — Bachelor of Applied Science in Mechatronics Engineering **Apr. 2019**

- Relevant Courses: Algorithms and Data Structures, Sensors and Instrumentation, Real-Time Systems, Actuators and Power Electronics, Microprocessors and Digital Logic