

Skills

Software

Ruby | C | Python | Bash | Linux Command Line | HTML/CSS | JavaScript | Assembly | Matlab
Automation scripting | Data structures and Algorithms | Object Oriented Design | Git | JIRA | WinDBG

Hardware

Hardware debug tools | Computer hardware | Microcontrollers | Raspberry Pi | Lab equipment

Work

AMD

May 2019 - Present
Markham, ON

Hardware Engineering Intern

Automation Software Development

- Contributed extensively to test automation framework implemented in Ruby.
- Reduced setup time by 20% and mitigated user error by automating the removal of voltage margins for stress testing.
- Developed a system controller to maintain a desired GPU temperature set point.
 - Reporting script on system provides ASIC temperature to remote server on Raspberry Pi with Thrift API.
 - Remote controller utilizes a PID controller to stabilize ASIC temperature, by setting environmental temperature.
- Created and maintained modules for test application automation for both Windows and Linux.
- Improved framework architecture by refactoring several components and libraries for modularity and extensibility.

Hardware Validation

- Created, planned, and executed test procedures to validate multimedia hardware within AMD GPUs.
- Multimedia validation lead for several products, applied hardware IP knowledge to improve testing effectiveness.
- Debugged system level failures and drove them to closure through collaboration with firmware and hardware teams.

SNC Lavalin

June 2018 - September 2018
Mississauga, ON

Controls Engineering Intern

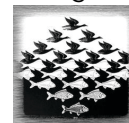
- Developed a practical training system for the operation of robotic tooling designed to inspect nuclear reactors.
- Selected key examples from previously acquired scans to create a custom training database.
- Improved inspection efficiency by compiling data from previous campaigns to deduce where time can be saved.

Projects

Image Processing

- Implemented a genetic algorithm in C that simulates natural selection.
- Randomized image was evolved to converge to an input target.
- Euclidean distance between pixels was used as a fitness function.
- Each generation involves a crossover between most fit population members.

Target



Result



Pacemaker

- Designed a GUI in Python to allow users to set pacing modes and values and save account specific information.
- Utilized PySerial to transfer parameters between GUI and pacemaker board.
- Established asynchronous handshake protocol for data being sent and received.

Smart Powerbar

- Functional IoT prototype utilizing a MCU to control multiple relays over WiFi.
- On-board firmware handles requests, Apple HomeKit support using Node.js currently under development.

Education

McMaster University

September 2016 - May 2021
Hamilton, ON

Bachelor of Engineering, Mechatronics Engineering Co-op, Year 4 of 5

- Coursework: Data Structures and Algorithms, Software Development, Operating Systems, Embedded Systems
 - Dean's Honour List : 2018 Fall - 2019 Winter