Ronald Gayowsky

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EDUCATION

UNIVERSITY OF WATERLOO

4A Mechatronics Engineering
Candidate for BASc
Expected April 2021

SKILLS

LANGUAGES

• C++ • C# • Python
• Bash/Shell • SQL

PLATFORMS

• Linux • Arduino
• Android • RasPi

INTERESTS

PROFESSIONAL

- Firmware Dev.
- IoT Development
- Unix Applications

PERSONAL

- Rock climbing
- Music
- Hockey

EXPERIENCE

FORD MOTOR COMPANY

Software Developer — Spring 2020

- Saved reliability team 20+ person-hours per week by automating manual operations in workflow using C# applications
- Managed building and deployment of software to remote stations using Jenkins and Nexus
- Analyze performance metrics from XML logs by scripting in Python to parse relevant information and display in digestible figures

BLACKBERRY - ADVANCED TECHNOLOGY DEVELOPMENT LABS

Software Developer — Fall 2019

- Wrote Unix programs in C++ to mimic malware behaviour for product software testing
- Accelerated testing workflow by implementing a containerized build system with Docker for a project targeting multiple Unix distributions
- Implemented an SQLite based cache in C++ for use in Android and iOS applications
- Improved coop onboarding experience by writing a "Hitchhiker's Guide to Unix Development", consulting team engineers and personal experience
- Received a BlackBerry Silver Star Award for exceptional performance

BLACKBERRY - FIRMWARE DEVELOPMENT TEAM

Test Automation Developer — Winter 2019

- Established a device performance tracking system by creating a test suite and database in Python and MySQL
- Redesigned a MySQL database to facilitate tracking internal device possession history
- Built a Python script to upload automated test results to TestRail
- Wrote automated test scripts in Python for device firmware and bootchain security
- Maintained a Jenkins server for test automation and investigated failed test cases

PROJECTS

MUSIC LEARNING ASSISTANT — Spring 2020

Built a tool to assist in learning music

- Designed a database in SQLite to track songs learned and related media
- Scripted in Python to manage the database, return statistics, and open learning resources

AUTONOMOUS ALL-TERRAIN ROBOT "MUSHU" — Winter 2020

Built as part of the Mechatronics 3B Design Project

- Designed and built a rechargeable Li-ion power supply to safely power the MCU, sensors, and motors
- Integrated ToF sensors using I2C protocol to navigate a pseudo random course

SPACE INVADERS ON EMBEDDED SYSTEM — Fall 2018

Developed for the ARM Cortex M3 Keil LPC1768 Microcontroller in C

- Designed multiple threads to jointly handle game elements such as physics, logic, animation, and I/O
- Handled four I/O devices for player input and media output (potentiometer, push button, LCD display, LEDs)

SKITTLE SORTER — Spring 2016

Developed a robot to sort skittles based on colour

- Programmed an Arduino Uno in C++ to receive and filter input data from an RGB colour sensor
- Designed power delivery and logic circuits for microcontroller interfacing with stepper motors
- Drafted and 3D printed skittle flow control components in Solidworks