

# 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+ human-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