

# Ronald Gayowsky

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## EDUCATION

### UNIVERSITY OF WATERLOO

3B MECHATRONICS  
ENGINEERING  
Candidate for BASc  
Expected April 2021

## SKILLS

### LANGUAGES

- C++ • C • Python
- Bash/Shell • JavaScript
- HTML • CSS

### PLATFORMS

- Linux • Arduino
- Android • RasPi

## INTERESTS

### PROFESSIONAL

- Unix Applications
- IoT Development
- Embedded Dev.
- Data Engineering

### PERSONAL

- Rock climbing
- Music
- Hockey
- Carpentry

## EXPERIENCE

### BLACKBERRY - ADVANCED TECHNOLOGY DEVELOPMENT LABS

SOFTWARE DEVELOPER

FALL 2019

- Wrote Unix programs to mimic the behaviour of malware to test product software
- Significantly reduced build and test time by researching and introducing containerization to multiple target-platform development
- Implemented an SQLite based cache in C++ for use in Android and iOS applications
- Improved coop on-boarding experience by writing a "Hitchhiker's Guide" to Unix Development, consulting team engineers and using personal experience

### BLACKBERRY - FIRMWARE DEVELOPMENT TEAM

AUTOMATED TEST DEVELOPER

WINTER 2019

- Established a device performance tracking system by creating a test suite and database in Python and SQL
- Redesigned a database to facilitate internal device tracking history using MySQL
- Built a Python script to upload automated test results to TestRail
- Wrote automated test scripts in Python for device firmware and bootchain security

### CRYSTAL CLAIRE COSMETICS

AUTOMATION ENGINEERING

SPRING 2018

- Integrated UR5 collaborative robotic arms and sensors into existing manufacturing lines
- Created multi-threaded programs in UR Script to coordinate function of external sensors, PLCs, and robotic arms
- Researched, purchased, and installed sensors and pneumatic components

### RTG SYSTEMS INC.

ENGINEERING DESIGN ASSISTANT

FALL 2017

- Created AutoLISP scripts to provide technicians custom drafting tools in AutoCAD
- Integrated a project tracking system into company MS Access database with VBA
- Designed a contract generation script based on the database record of scope of work

## PROJECTS

### SPACE INVADERS ON EMBEDDED SYSTEM

Fall 2018

Develop for the ARM Cortex M3 Keil LPC1768 Microcontroller

- 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)
- Written in C using  $\mu$ Vision4

### "PASS THE BUTTER" ROBOT

Fall 2016

Create a robot that can search and retrieve butter on a kitchen table

- Implemented a searching algorithm to efficiently and accurately categorize items and reject non-butter instances
- Designed mechanical systems such as robot drivetrain, grabbing mechanism, and chassis

### SKITTLE SORTER

Spring 2016

Develop a robot to sort skittles based on colour

- Programmed an Arduino 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