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
- Embedded Dev.
- IoT Development
- Web Technologies

PERSONAL

- Rock climbing
- Music
- Hockey
- Carpentry

EXPERIENCE

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, then investigated failed test cases

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

RTG SYSTEMS INC.

ENGINEERING DESIGN ASSISTANT   FALL 2017

- Created AutoLISP scripts to provide custom drafting tools in AutoCAD for technicians
- Integrated a project tracking system into company MS Access database using VBA

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 μVision4

"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