

# Taylor von Hausen

Engineering Systems and Computing

## CONTACT

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## PROFICIENCIES

### Languages:

Python – C – Java – HTML/CSS –  
JavaScript – Swift

### Operating Systems:

Linux – Windows – MacOS

### Hardware:

Arduino – RaspberryPi – STM32  
Embedded Development Board

### Software:

Git – MatLab – MongoDB –  
SolidWorks – ngrok – Microsoft  
Office Suite

## WORK EXPERIENCE

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### Software Developer, *Cognitive Systems Incorporated*, Waterloo ON

January 2019 – December 2019

- Developed a program to simulate a “motion walkthrough test” under different device sensitivity conditions. This was done by using various python libraries such as the Pandas data frame and Matplotlib and would calculate new motion values for an existing test using different sensitivity values.
- Developed an authentication layer for an internal JavaScript web application and made UI changes to improve the user experience of the application.
- Provided support, bug fixes and improvements to the web application such as a bar graph that would update continuously if motion was detected by the application.
- Developed a suite of around 100 tests for an iOS and Android application that reduced QA work needed for the apps.
- Developed a Continuous Integration system that ran the test suite developed daily and every time a change was made to the applications.
- Developed features for a customer facing iOS app used by thousands of users.

### IT and Knowledge Management Coordinator, *MEDA*, Waterloo ON

May 2018 – September 2018

- Designed and developed a Python-Flask application to distribute voucher codes via SMS to recognized clients, with an SMS interface as well as a web interface.
- Created a project timeline for the Python-Flask application and completed goals on time in a timely manner.
- Created scope of work and presented scope of work to client.
- Created and integrated a MongoDB with the Python-Flask application to store information on clients, vouchers, and system logs.
- Presented project, its design and my suggestions to supervisor and other senior employees.
- Handled responsibilities independently with minimal management.
- Ran a programming workshop for the IT department.

## EDUCATION

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### Bachelor of Engineering, Major (Co-op), *University of Guelph*

September 2016 - Present

- Engineering Systems and Computing Program
- University of Guelph Entrance Scholarship for an average above 85%

### International Baccalaureate, *Cameron Heights Collegiate Institute*, Kitchener ON

September 2012- June 2016

- IB Diploma Program
- Ontario Scholar

## PROJECTS

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### Crisis Communicator

- Developed a device that when switched on, sends vitals information of wearer to an end device and communicates an emergency signal via SMS.
- Onboard sensors monitor heart rate, skin temperature, and motion detection connected to XBee radio module and sends the information to another coordinator XBee module which is connected to a Raspberry Pi base station.
- Raspberry Pi uses Python code to process vitals data and the sending of emergency alerts via SMS

### Embedded Intruder Detection System

- Used an STM32 embedded development board, a PIR sensor to detect intruder motion and an I<sup>2</sup>C camera module to take a picture of an intruder.
- System programmed using FreeRTOS and 4 tasks with different priorities, an interrupt handler and configuration of GPIO for the PIR sensor and camera.
- Tasks had real-time constraints and had to take a picture when motion was detected by the PIR sensor.