MATTHEW ROMLEWSKI

mechatronics engineering student with a passion for making

Contact

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www.github.com/mattromlewski

Skills

Development

C++, Python, Arduino
Linux, PLCs, HTML
Java, Javascript
SQL

Tools

- Solidworks, Fusion 360
- AutoCAD, GD&T
- Robotic actuators and sensors
- Alexa Skills Kit
- Android Studio
- Git, Subversion

Education

University of Waterloo

Mechatronics Engineering
2016 - Present
Co-op evaluation: Outstanding
Data Structures and Algorithms
Engineering Graphics and Design
Circuits

Achievements

2016 Schulich Leader Nominee
2016 Diocese of Hamilton Award
2014 OECTA Award

Interests

- Football & Ultimate
- Hackathon culture
- Rock climbing
- 3D printing
- Woodcraft & wood burning art

Experience

Embedded System Software & Hardware Developer — Co-op

Tigercat Industries — Fall 2017

- Spearheaded **computer vision** efforts in an agriculture automation project
- Designed and programmed a complete vision system using **C++** and **Python** to detect and track color-specific objects with pinpoint accuracy
- Designed and fabricated a 2-axis **robot** for a water sprayer with **serial** communications between a main computer and a microcontroller
- Formulated an algorithmic speed function for a **PLC** which processed an infrared 3D point cloud

Database Development Intern — Co-op

Independent Electricity System Operator (IESO) — Winter 2017

- Programmed new functionalities into three **Access** databases
- Solved database issues on a regular basis with **VBA** and **SQL**
- Reduced corporate risk in a Tableau-transition initiative; accelerated by 90%

Projects

EasyAlexa3D — Personal IoT Project

github.com/mattromlewski/EasyAlexa3D — Ongoing

- Created a voice-interactive front end for **3D printers** using **Amazon Alexa**
- Programmed a repsonse algorithm in Node.js which called to a database
- Quickly learned and implemented Amazon Web Services, noSQL and APIs

SightSeer — Personal Robotics Project

github.com/mattromlewski/SightSeer — Ongoing

- Created a plan to analyze the 3D point-clound from a Kinect sensor on a Raspberry Pi computer
- Collaborated to design electronics layout
- Compiled OpenCV for c++ in an embedded linux environment

UnitedShare — SpartaHack @ MSU

devpost.com/software/unitedshare — February 2017

- Designed and built an **Android app** to raise awareness for the homeless
- Awarded **Best hack** for social good
- Worked effectively with three teammates in 36 hours

ShelfMate — Mechatronics 100 Final Project

devpost.com/software/shelfmate — December 2016

- Performed a full **engineering design process** to build a shelf-sorting **robot**
- Programmed precise movement with three degrees-of-freedom in **C**
- Created a **data structure** to model a physical shelf with coordinates
- Practised project management, technical report writing and presentations