

Skills:

- Skilled in C, C# C++, Java, Python, HTML, CSS, JavaScript, Go
- Embedded development: MSP430, Raspberry Pi, STM32
- Git/GitHub/Bash
- Testing and Debugging
- Knowledgeable in OOP design
- Comfortable with Design Patterns
- Agile development Experience
- Familiarity with kernel development and Linux/Unix-like OS
- MySql and MongoDB experience
- Docker, Docker Hub, Kubernetes, and K3S experience
- PyTorch, TensorFlow, Keras, predictive modeling experience
- Strong verbal communication skills and a quick responder
- Strong time management skills
- Highly focused individual.

Education:

Bachelor of Science in Software Engineering, minor in Mechatronics

Expected May 2024

Schulich School of Engineering. University of Calgary

- Cumulative GPA: 3.8 / 4.0

Scholarships & Awards: Program and Research Scholarship (PURE) (2022); Jason Lang (2022,2021); Alexander Rutherford (2019)

Relevant Coursework: Software Design and Architecture, Operating System, Data Structures, Embedded System Interfacing, and Computer Networks

Relevant Experience:

Undergraduate Researcher Assistant, University of Calgary, Calgary May 2022 - August 2022

- Developed Embedded Controller and Machine learning application using **PyTorch and Python** to be run on the **Raspberry Pi** running **Ubuntu**
- Researched integration of methodologies between **Kubernetes and Federated Learning**
- Collaborated with a combined team of **4 undergraduate and graduate students** to develop machine learning **microservices** for data collection and sampling
- Communicated with coworkers on a daily basis through emails and daily virtual meetings
- Worked consistently within established timeframes to meet deadlines
- Independently extended a **Predictive algorithm using GO programming language** to boost the Kubernetes Scheduling capabilities on **Windows Operating System**

Vice President, Head of Logistics at Schulich Ignite

September 2021 - Current

- Consistently mentored the basics of **Python** and **HTML/CSS/JS** across sessions which each spanned **8 weeks** to groups of around **4-6 students**
- Reviewed, graded, and provided feedback on assignments to ensure students are progressing
- Collaborated with an executive team to increase the application rate of Schulich Ignite summer Sessions by 140%
- Spearheaded the development of a new **Web Development course** to be offered to high school students in the Fall 2022 semester
- Scheduled and **Conducted Interviews** for new applicants for both Schulich Ignite's python and web development sessions using Google Sheets and this Fall semester
- Communicated with **executives and sponsors**, both through **emails and weekly meetings**, to review progress and resolve bottlenecks to help ensure the development of any new projects

Personnel Engineering Projects:

Embedded Systems Development of MSP430 microcontroller

November 2021 - May 2022

- Designed a **concurrent multitasking system** on microcontroller **MSP430** with the **C programming language**
- Developed a system that could run multiple sampling tasks using different communication protocols through the use of an individually designed **system scheduler**
- Coordinate design between multiple low-level communication levels such as **I2C** and **UART**
- Configured and designed a system to be used with peripherals such as **LCD, gyroscope, and Temperature sensors** that could be run concurrently
- Implemented fundamental power consumption principles in all implementations

Neural Network Library

June 2021 - October 2021

- Engineered **Personnel Neural Network and Machine Learning Library** using **Python Programming Language** from scratch
- Applied relevant coursework and interest to develop a **flexible framework** with no prior knowledge
- Maintained structure of code base using versioning control tool **Git** and internet hosting service **GitHub**
- Developed models that were able to **clean data** and classify **raw datasets and images**
- Achieved 95% classification rate on known test raw data sets
- Developed **Convolution Support** for a **Neural Network** that was able to classify image samples of various subjects to a degree of 90%

Personnel Interests:

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- Competitive Swimmer (2011-2019)
 - Instructional Basketball and Swimming Coach (2016-2021)