Joshua Ching

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Experience

Co-Op Student | Department of National Defence

May 2022 - Aug 2022

- Designed an automated reception system via drone to receive and direct guests in an office
- Created, using Power BI, an interface to administer and organize a stakeholder management database

Software Development Intern | Geotab

Sep 2021 - Dec 2021

- Enhanced Kubernetes cluster stability by creating a function that notifies whenever a cluster node or control plane is being upgraded
- Created a server and deployer to make online predictions on premade machine learning models such as scikit-learn, Tensorflow, and Keras

Innovation Program Manager | Department of National Defence

Jan 2021 - Apr 2021

- Aided in the testing of SmartShape, a digital twin visualization software
- Programmed using Python and machine learning for an OpenBCI headset to interpret EEG signals
- Authored a report on sewage treatment innovations in Canadian ships

Projects

Technical Captain | uOttawa Bionics

Sep 2019 - May 2023

- Contributed to the technical progress and gave counsel to the development of a four-degree of freedom (DOF) hip-mounted exoskeleton for rehabilitation utilizing SolidWorks and mechanical design
- Designed and manufactured the electrical subassembly of the exoskeleton and a suit stand for showcasing
- Managed the design, prototyping, and testing of a myoelectric arm, leveraging composite materials for improved performance

A Trebled Soul | **uOttaHack**

Feb 2020

- Web application that displays the characteristics of a user's twenty most recently liked songs on Spotify
- Integrated Spotify API to authenticate the user's account and retrieve their recent songs and metrics
- Used JavaScript, Node.js and React to build a responsive app

Education

BASc in Biomedical Mechanical Engineering and BSc in Computing Technology
University of Ottawa
2018 - Anticipated 2023
6th year, 3.7 GPA

Awards

2019, 2020 | Dean's Merit Scholarship

uOttawa Engineering Competition:

2020 | Senior Design 1st Place

2019 | Junior Design 1st Place

Tools

Languages

English

French (Working language)

Mandarin (Comprehension)

Mechanical

CAD (SolidWorks, AutoCAD, Fusion 360, Rhino), FEA, CFD, Mechanical Design

MATLAB/Simulink, Maple, Quartus, ANSYS, STAR-CCM+

Biomedical

Electromyography, Brain-Computer Interfaces, Biomechanics

Electrical

Microcontrollers, PCB Design, System Design, Sensor Interfacing

Software

Java, Python, C, C++, Go, JavaScript

HTML, CSS, Bootstrap, Angular, React

Microsoft Office Suite, LaTeX, Git, Agile

Spring, Hibernate, SQL