Connor Jong

Mechatronics Engineering Student

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WORK EXPERIENCE

R&D Mechatronics Engineering Intern
Lincoln Electric Canada

05/2019 - 08/2020

Achievements/Tasks

- Developed, debugged, and unit tested **C/C++** source code for embedded controllers of several flagship **$25,000+** prototype welding units from conception to production
- Designed developed, debugged, and unit tested **GUI** of **3 $25,000+** flagship engine-driven welding units
- Integrated Telematic GPS Communication device into prototype welder, using **CAN bus** as a serial communicator, to relay critical data collected to the user on a web application
- Led a four-week project conducting performance tests on a **$25,000+** prototype and making necessary design changes to successfully acquire IP23 and CSA certifications
- Designed and modified the electrical and mechanical systems for 2 engine-driven welder prototypes
- Developed standard testing documentation and procedures for a **$25,000+** product and participated in assembly supervision to oversee successful testing

PCB Manufacturing Engineering Co-op
Circuit Tech Inc

05/2018 - 08/2018

Achievements/Tasks

- Utilized 6 Sigma and 5S methodologies to improve quality control guidelines and production efficiency by **25%**
- Assisted Circuit Tech Inc. in acquiring military-grade certification on their PCBs via the implementation of new quality control guidelines
- Assisted on several PCB design projects per day in the multilayer lamination pressing department including military level projects

EDUCATION

Candidate for Bachelor of Applied Science, Mechatronics Engineering
University of Ontario Institute of Technology

09/2016 - 04/2021 — *Most Recent Semester's GPA: 4.15/4.3*

TECHNICAL SKILLS

C/C++ | Microsoft Office | Python | Java | ROS | OpenCV | SLAM | Linux | MATLAB | SAP | Git

PROJECTS

Turtlebot3 for Package Retrieval Using SLAM (01/2021 - Present)

- Successfully integrated sensor data from **LiDAR** with open-source **SLAM** software to develop a functional 2D map of the environment in **ROS**
- Developed **C++** and **Python** programs in **ROS** using frontier exploration to have the Turtlebot3 autonomously explore a location and return home once the entire area was mapped and explored
- Modified open-source **path planning** to allow for the local path to more closely follow the global path, allowing for a more robust system
- Developed software to utilize **camera data** to identify packages and their location, save the location data, and mark their transform frame on the 2D map of the environment in **ROS**

Unmanned Aerial Vehicle for Structural Firefighting [Team Leader] (02/2020 - Present)

- Designed and modified electrical and mechanical systems of the UAV, including the frame and power management system
- Modified open-source software to extract 3D point clouds from a calibrated stereo camera in **ROS** using **Python** and **C++**
- Implemented 2 open-source **Simultaneous Localization and Mapping**, a 2D map generation to be used with autonomous navigation, and a 3D mesh reconstructed map for human interpretation in **ROS**

EXTRACURRICULARS

Code Life Ventilator Challenge (03/2020 - 04/2020)

Worked as a team to design a low-cost, easy-to-use and easy-to-build ventilator that can serve the COVID-19 patients, in an emergency timeframe

University Mars Rover Design Team (07/2018 - 04/2019)

University design team, tasked with developing an autonomous rover for the University Rover Challenge and the Canadian International Rover Challenge

Intramural Basketball Captain (01/2017 - 04/2020)

Intramural Basketball Captain for 3+ years, making 3 intramural basketball final appearances and winning 1 intramural basketball championship

Junior Achievement [Sponsored by Deloitte] (10/2015 - 04/2016)

Worked in a start-up environment and developed a baby-sitting service app under the mentorship of Deloitte Executives. ***Won most innovative company of the year****.*

SOFT SKILLS

Communication skills | Leadership | Quick-learner | Project Management | Time Management | Adaptable