DAN HUYNH

Mechatronics Engineering | danielryanh7@gmail.com | danielrh.ca | LinkedIn | GitHub

+ OVERVIEW

- **Languages:** C/C++, Java, Python, JavaScript/TypeScript, HTML/SCSS, SQL, Swift/Swift UI, PHP
- **Libraries & Frameworks & Tools:** Git, Drone/Harness, Tekton, ROS, Docker, React.js, Node.js, Flask, TensorFlow, PoseNet…
- 4+ years of experience in designing mechanical equipment using **SolidWorks** and **AutoCAD**
- Skilled communicator that loves working with others

+ PROFESSIONAL EXPERIENCE

Software Engineer | Ford Motor Company | September 2022 – December 2022

- Created components including a data-model agnostic autocomplete component using **React Typescript**, that queries 1000+ **Firebase** records for objects that fit a **Regex** string on one of 7+ record properties.
- Wrote asynchronous REST API methods using **Axios** that reads/writes to 1000+ records in a CRUD **Firebase** database.
- Designed a filter-drawer using **Invision** designs that filter through 1000+ records by 7+ criterion whilst updating the present filter state with a visual indication.
- Leveraged TDD by creating mocks with **Jest** to develop 2 test suites that authenticate **React** apps and REST APIs.
- Facilitated Ford's **agile** work environment and demonstrated leadership by contributing to 120+ stand-ups, IPMs, platform presentations, and aiding co-op students.
- Received the **Ford Modernization Recognition Award** ($100) for significant contributions to the Ford Pro Gateway.

ERP Full-Stack Developer | G.B.I.E | January 2022 – April 2022

- Implemented a self-proprietary method of caching **SQL** results within **PHP** which improved the load time of web pages by up to 643.5% (from 1.48 s to 0.23 s).
- Designed six **MSSQL** tables using star schema warehouse data architecture and wrote queries that scraped data from 73 tables to gather data pertaining to the prediction and planning of product shipments.
- Incorporated a large-scale internal system used daily by the R&D department using **Python**, **Flask**, **JavaScript** and **MSSQL** that allows employees to view lab request analytics.
- Wrote a function using **Openpyxl**, and **Pandas** which generates excel reports that display lab analytics for ISO auditors, and SR&ED applications, saving R&D more than 30 hours of labour per year.

+ PROJECTS

LiftBro | November 2022 – December 2022

- Built an AI-based personal trainer using **React**, **Electron**, **TensorFlow**, and **PoseNet** that tracks demonstrated poses using 17 body indices to train a 3-dense layer sequential model which identifies movements to track one's workout.
- Produced eight stateful **React** components that contain the **React-Webcam**, current workout statistics, and an **MUI** naive-select form that houses movements that the user may train.
- Composed a pre-trained **PoseNet** estimation algorithm that finds pose points, whilst leveraging **PoseNet** to visually indicate 17 indices and create a tracked skeletal frame.
- Defined a sequential model by utilizing the **TensorFlow** API and one-hot-encoding, which was fit to three tracked movements and stored within local storage.

ROS Noetic Motor Controller Driver | February 2022 – March 2022

- Developed a **ROS Noetic** wrapped driver compatible with three speed-controlled motors using **C++ (OOP)**.
- Wrapped **C++** getters and setters with publishers and subscribers to read/write to the motor's status, speed, and max speed in under 0.10 s.

Self-Parking Robot | November 2021 – December 2021

- Produced a program written within **C** that allows an integrated LEGO EV3 robot to use ultrasonic, and colour sensors to locate a suitable parking space and perform a parallel park.
- Applied error handling that utilises a motor encoder and an ultrasonic sensor to prevent the robot from colliding with nearby objects from a range of 1 – 250 cm.
- Wrote a 19-page technical document that included function descriptions, a software design outline, which resulted in a grade of 99% in conjunction with the project source code in the capstone project of MTE 121.

+ EDUCATION

University of Waterloo | 2021-Present | GPA: 3.9 | Honours BASc. (Mechatronics Engineering Co-op) Candidate

Queen's University | 2020-2021 | GPA: 4.0 | BASc. (Computer Engineering) Candidate | Queen's University Excellence Scholarship