





FRANK WU

Candidate for Bachelor of Software Engineering 2023
90.52 Cumulative GPA / Dean's List x 3 terms

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★ SKILLS AND TOOLS

Languages: C, C++, Java, JavaScript, Python, SQL

Technologies: Git, CMake, Clang Asan, ROS, React, Node.js, Flask

🚩 WORK EXPERIENCE

Client Interfaces Database Software Developer

Jan 2020 – Apr 2020

SAP Labs Waterloo

- </> Designed and wrote a multi-platform **C++ Wireshark** plugin for dissecting SAP HANA protocol (database networking protocol) packets to help developers resolve customer escalations faster
- </> Identified performance improvements by writing performance tests and implemented them, leading to a **10%** faster fetch time using the HANA command line interface
- </> Developed a new **Java** software pipeline to record failed CI tests and track failure frequencies to reduce developer root cause determination time
- </> Identified memory leaks with **Clang Asan** and designed an improved behaviour for lob queries which enables faster bounded lob fetches

Processing Core Member / Technical Leader

Sep 2019 – Apr 2020

Watonomous

- </> Wrote a prototype **Python** parser to extract lane lines from **Open Street Maps** map
- </> Implemented **C++** Intersection Over Union algorithm to match detected obstacles in object tracking over time leading to improved object tracking accuracy and perception data fusion
- </> Designed a new **ROS** software pipeline to match traffic lights received from autonomous vehicle sensors with traffic light data in HD maps to enable path planning around traffic lights

Software Developer

May 2019 - Aug 2019

Cisco Systems Canada

- </> Built a **React** web tool with **Flask** from scratch to configure and compare **Google RPC** and **Model Driven Telemetry** router outputs featuring conditional rendering and dynamic front-end JSON file construction
- </> Introduced **multithreading** for router connections to reduce testcase setup time by **70%**
- </> Wrote **Pytest** unit tests/test cases to verify parsing accuracy, **IPv6 segment routing** behavior and **BGP** and **Bundle** statuses

⚙️ FAVOURITE PROJECTS

GoSushi

May 2019

- </> Remake of SushiGo! board game. Designed and implemented **React-Spring** card animations and introduced reliable player reconnection to the **Socket.io** server.

Health on a Cloud

Sept 2019

- </> Developed a telehealth platform at **Hack the North** which connects patients anonymously with different specialists. Built with **Express.js** and a **Socket.io** backend.
- </> Spearheaded the **React** app development, socket communication and connection with **Azure Cognitive Services** API which transcribes the conversation and summarizes the medial notes