

Tony Li
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EDUCATION

University of Waterloo

Bachelors in Computer Science, Co-op – Fourth Year

September 2019 - Present

Cumulative GPA: 87%

SKILLS

Languages: C++, TypeScript/JavaScript, Java, Python, C, SQL, Scheme, R, HTML/CSS
Technologies: Node.js, React, Next.js, Spring, TensorFlow, MongoDB, PostgreSQL, Docker, Git

WORK EXPERIENCE

Undergraduate Research Assistant | University of Waterloo

May 2022 – Present

Computational Motion Group – Professor Christopher Batty

- Developing a symmetric adaptive quadtree-based implementation of the Navier-Stokes equations using variational finite differences with application in the simulation of viscous flows.

Software Developer (Platform Team) | Infor

Co-op: January 2022 – April 2022

Java, Kotlin, Spring, PostgreSQL, Docker, Flyway

- Conducted a complete upgrade of the application's logging framework from Log4j to Logback to address security concerns and introduce support for the SLF4J interface.
- Revised database access code to eliminate compatibility systems for the legacy Db2 z/OS database, improving database migration speeds by up to 50%.
- Engaged in design meetings with architects to reduce the impact of major changes on existing client environments and create upgrade guidelines.
- Updated build pipelines and performed regular JUnit and Cucumber tests with Jenkins.

Full Stack Software Developer | Honeybee Hub

Co-op: May 2021 – August 2021

Node.js, Express, MongoDB, React, Next.js, Stripe

- Led the implementation of a subscription-based pricing model across the application stack using Stripe to securely handle payment processes.
- Created features for the prescreening survey system including survey and response navigation pages as well as support for dynamic branching logic.
- Redesigned and implemented new landing and search pages using Next.js and Material UI.

PROJECTS

FlowerID | Android app that identifies flowers using machine learning

React Native, TensorFlow, Keras, TypeScript, Python, Jupyter

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- Designed and built a sequential convolutional neural network with TensorFlow and Keras.
- Optimized the model with assistance of visualization with Matplotlib and features inspired by VGG-16, reaching a validation accuracy of over 80%.
- Created an Android app using React Native and TensorFlow.js to run predictions with camera images, using weight quantization to reduce the model size by a factor of 4.

highlighter | Full stack application for syntax highlighting code in Discord

Node.js, Express, Axios, React, TypeScript, Bootstrap

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- Created a REST API with Node.js and Express to syntax highlight code of over 30 languages using Prism.js as well as a simple web frontend with React and Formik.
- Built a Discord bot that allow users to highlight code in chat with less than 5 seconds of latency.