Tony Li

tonylizj.com
github.com/tonylizj

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EDUCATION

University of Waterloo — September 2019 - Present
Candidate for Bachelors in Computer Science, Co-op — Cumulative GPA: 87.2%
Relevant Courses: Object-Oriented Programming, Data Structures and Algorithms, Combinatorics

TECHNICAL SKILLS

Languages:	TypeScript/JavaScript, C++, Python, HTML/CSS, Scala, R, Scheme
Frameworks:	Node.js, React, React Native, Express, Mongoose, Next.js, Bootstrap, TensorFlow
Technologies:	MongoDB, Git, Jupyter, Postman, Linux, Google Cloud, Heroku

PROJECTS

highlighter | Full stack application + Discord bot that syntax highlights code

Node.js, Express, Axios, React, TypeScript, Bootstrap, Formik, Postman — tonylizj.com/hl

- Created a REST API with TypeScript in Node.js to syntax highlight code of over 30 languages.
- Utilized Express to handle request routing and Prism.js to tokenize input code.
- Built a Discord bot in Node.js with Discord.js and sent requests to the API with Axios.
- Implemented Discord commands that allow users to syntax highlight their code in chat with any specified language and returns the result with less than 5 seconds of delay.
- Created a simple React frontend with Formik and Bootstrap to use the API in a browser.

FlowerID | Android app that identifies flowers using a convolutional neural network

React Native, Tensorflow, Keras, TypeScript, Python, Jupyter Notebook — tonylizj.com/flower

- Built a sequential convolutional neural network model with TensorFlow and Keras.
- Optimized the model with visualization using Matplotlib and features inspired by VGG-16, reaching a validation accuracy of over 80%.
- Utilized weight quantization to reduce model size by a factor of 4 to minimize app size.
- Created an Android app using React Native and Expo components with TensorFlow.js to run predictions with the user's camera.
- Deployed the app to the Play Store at play.google.com/store/apps/details?id=com.flowerid.

config-sync | VS Code extension that syncs project configurations with MongoDB

MongoDB, Mongoose, Node.js, TypeScript — tonylizj.com/config

- Created an extension with Mongoose for MongoDB and the VS Code extension API that simplifies starting new projects by syncing in existing configuration files.
- Implemented option to use local disk instead of MongoDB for users who do not set up a database.

EXPERIENCES

Team 4001 Robotics | Lead Programmer

- Designed and implemented autonomous robot movement while directing other programmers.
- Used object-oriented programming in Java and RobotPy in an Agile development environment.
- Created a simulation system, allowing programmers to test their code without a physical robot.
- Worked with other departments to brainstorm autonomous paths and strategies for competitions.
- Participated in FIRST Robotics competitions and qualified for provincials.