Tony Li

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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, Scheme
Frameworks and Libraries: Node.js, React, React Native, Express, Next.js, Bootstrap, Keras
Technologies: Git, Jupyter Notebook, Google Cloud, Heroku, LaTeX

PROJECTS

FlowerID | Android app that identifies flowers using a convolutional neural network
Python, React Native, Typescript, Tensorflow, Keras   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.

highlighter | Full stack application + Discord bot that syntax highlights code
Node.js, React, Axios, Discord.js, Typescript, Formik, Bootstrap   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 send requests to the API with Axios.
- Implemented Discord commands that allow users to syntax highlight their code in chat with desired language and quality with less than 5 seconds of delay.
- Created a simple React frontend with Formik and Bootstrap to use the API in a browser.

Watopoly | UWaterloo themed Monopoly game in C++ [Coursework]
- Developed a version of Monopoly using object-oriented programming principles and XDisplay.
- Created UMLs, used RAII as well as model-view-controller and Observer design patterns.
- Demonstrated organizational skills by collaborating with team members over GitHub and scheduling deadlines for features, receiving perfect marks for the project.

EXTRA-CURRICULAR 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.