Delmar Zhao

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SKILLS

LANGUAGES: Python, Java, C, Dart, Bash, Javascript, HTML, CSS
TOOLS AND FRAMEWORKS: Git, SQL, Android Studio, Flutter, Flask, Node, Express

EXPERIENCE

FORTRAN TRAFFIC SYSTEMS LIMITED

Full Stack Developer — May 2019 - Aug. 2019

- Led development of cross-platform mobile app using **Dart** and **Flutter** to display live map navigation and real-time traffic signal phase and timing information to users
- Implemented email and Google account based user authentication using Google **Firebase**, and allowed administrators to create priority accounts with additional privileges for transit and emergency vehicles
- Implemented connected transit signal priority requests, allowing traffic controllers to adjust phase timings to accommodate incoming transit vehicles based on their speed and distance from the intersection
- Created **REST API** endpoints with **Nodejs** and **Express** for serving intersection geometry, signal phase, and timing information based on GPS protocol message stream
- Parsed ASN.1 encoded intersection geometry information from REST API and road side units, and mapped users to road network polygons using the convex-hull algorithm
- Optimized REST API responses using gzip encoding, reducing mobile app data usage by 88 percent per nearby intersection

PROJECTS

SIGN LANGUAGE INTERPRETER — 2018

- Implemented sign language interpreter using **Python**, **Flask**, and the IBM Watson Machine Learning API
- Evaluated performance to optimize parameters for the dataset
- Won 1st place at Hack the North 2018 for best use of the IBM Watson Machine Learning API

GAMECENTRE — 2018

- Designed mobile game hub with **Java** and **XML** using the **MVC** design pattern, to allow users to compare scores with others
- Built several mobile games for the hub in **Android Studio**, and used **JUnit** to automate testing for controller classes
- Used **Git** for source control and versioning in a group project environment

VOICEKBM — 2018

- Transcribed voice input using the Google Cloud Speech API and parsed them into for voice commands for disabled/impaired computer users
- Programmatically controlled the mouse and keyboard using the **Python** PyAutoGUI module, including support for mouse movement, single/double clicks, scrolling, typing phrases, and keyboard shortcuts

EDUCATION

University of Toronto — Sept. 2017 - Apr. 2021

3rd year student pursuing Bachelor's of Computer Science
3.89 GPA

AWARDS

Fred and Mary Koch Foundation · KOCH SCHOLARSHIP

- Awarded annually based on outstanding GPA, extracurricular activities, community service, and character