Bill (Yuan Hong) Sun

(647) 987-3896 billyuanhong.sun@mail.utoronto.ca github.com/billyhsun billyhsun.github.io/portfolio

Education

University of Toronto, Faculty of Applied Science and Engineering — Toronto, ON
B.A.Sc. Candidate in Engineering Science, — Sep. 2016—Jun. 2021
Major in Machine Learning & Artificial Intelligence — (Expected)

Skills

- **Programming Languages:** Python, C, C++, JavaScript, Java, HTML/CSS, MATLAB, SQL, SAS, and Verilog
- **Machine Learning**: PyTorch, TensorFlow, Scikit-learn, Pandas; Deep learning and neural networks
- **Other Technologies:** Amazon Web Services, Git/GitHub, React Native, Mango DB, Arduino

Work Experience

University of Toronto Transportation Research Institute — May—Aug. 2017
Research Assistant, Data Analyst—Transportation Modelling Group (Prof. Eric J. Miller)

- Analyzed path data from transportation path choice modelling of the Greater Toronto Area
- Developed Python programs to parse, analyze, and compare transit path data sets
- Implemented data structures including tries to optimize data processing
- Results were used to improve a machine learning prediction model by over 20% accuracy
- Research was useful in forecasting future transit demand

(A report is available on GitHub)

Projects / Volunteering

***Gospel China Bridge*—Content hosting and streaming application** — May 2018—Present

- Using React Native with Node.js; connected to content hosted on HTTP server
- Allows users, to stream, watch, or listen to Sunday sermons in audio and video format
- User interface to help users manage downloads locally
- Intends to help the organization reach out to the greater public

***Chayah*—A social media platform for community outreach** — July 2018—Present

- Using React Native with Node.js; connected to data hosted on mySQL database
- A gamifying experience to make community outreach and social good more entertaining
- Allows users to host community events and help others through requests
- Users posts challenges and requests, upload content and media, and chat with others

Deep Learning Project: Hurricane intensity classification from satellite images — Oct. 2018—Present

- Utilizes convolutional neural networks to process satellite images of tropical cyclones
- Built and created own dataset based on NOAA hurricane data
- Potentially useful for disaster forecast and prevention (updates will be provided in Nov.)

Awards and Achievements

- AWS Certified Solution Architecture - Associate — In Progress
- U of T Delta Tau Delta Scholarship (Amount: $3000) — October 2016
- SAS Certificate of Completion — June 2016

Interests

Hackathons, weather & climate, earth sciences, Engineers Without Borders, swimming, fitness, social causes