

Ray Liu

SOFTWARE ENGINEERING UNDERGRADUATE

Toronto, Canada

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Technical Skills

Programming Python · Java · C/C++

Analytics IPython (with NumPy, Pandas, Jupyter) · SQL · Excel

Web/Others HTML/Javascript/CSS · Django · Tkinter · SQLite

Education

McMaster University

Hamilton, ON, Canada

B.ENG IN SOFTWARE ENGINEERING

Sept 2016 - May 2020

- GPA: 3.75 | Dean's honour list
- Relevant Courses: Data Structures and Algorithms, Software Design, Digital Systems and Interfacing, Computer Architecture, Linear Algebra, Discrete Mathematics I/II

Experience

Taiwan Intelligence Service Company Ltd

Tainan, Taiwan

SOFTWARE ENGINEER INTERN

May 2018 - Oct 2018

- Designed and implemented a user interface for the AERMOD software (By EPA) using **Python Tkinter** that allows users to simulate dispersion of air pollutant emissions from stationary industrial sources with Google Earth
- Implemented function that allows users to input or use data files to specify different sources, terrain and meteorology information for dispersion simulations
- Designed and implemented test plans and test cases for the user interface

Tribute Window Coverings

Mississauga, ON, Canada

INTERN

July 2016 - August 2016

- Assisted with invoice using QuickBooks and an integrated system between barcode scanners and Microsoft Excel
- Demonstrated organizational and communication skills through organizing company's operations

Projects and Courses

TrawlExpert

TRAWL.SCHANKULA.CA/TRAWL/

2018

- Developed a **Java** web application that provides research tools such as range searches, cluster map, plotter map, heat map and histogram to assist the analysis of the water ecosystems
- Implemented a k-dimensional (kd) binary search tree for fast (5-10ms) range searches over 280,000 entries
- Developed with: **Java, HTML, Javascript, Apache Tomcat, Google Maps API**

Greeco

HTTP://GREECO.TECH/

2018

- Developed a web application that allows user to rate location and create a visual 'cleanliness' overlay of their local surroundings by using **Python, Django, SQLite and Google Maps API**
- A crowd sourced approach to raise awareness in local communities to identify problematic areas and organize cleanup events
- Developed with: **Python, Django, HTML, Javascript, Google Maps API**

Machine Learning

ONLINE COURSE BY STANFORD UNIVERSITY ON COURSERA

2018

- Used SVM to build spam classifiers
- Implemented the K-means clustering algorithm and apply it to compress an image
- Built a neural network to recognize hand-written digits