Yue Ma

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EDUCATION

B. Sc., Computer Engineering   **Sep. 2014 – Jun. 2019 (Expected)**
University of Alberta, Edmonton, Canada
- GPA:3.8/4.0
- Relevant modules: Operation System Concept, Tangible Computing, File and Database management, Machine Learning, Parallel Distribution Program, Object Oriented Software Design, Embedded System

COMPUTER RELATED SKILLS

- Python, JavaScript, Java, C, C++, SQLite, HTML, CSS, VHDL, Matlab, Assembly Language
- Skilled in web development and android development
- Familiar with databases, including MySQL, PostgreSQL, and Vertica Embedded System

PROFESSIONAL EXPERIENCE

Researcher & Developer, Shaw Communications   **Jan. 2017 – Dec. 2017**
Proactive Network Maintenance (PNM)
- Developed a cable field fault detection application based on CableLabs' PNM documentation
- Optimized the signal clustering method using DBSCAN (density-based spatial clustering of applications with noise) algorithm instead of the origin energy comparison method
- Tested the application in the real world and it was proved to detect 35% (previously 8%) cable issues before the users were impacted.
- Conducted hands-on physical experiments to analyze various cable plants' issues
- Wrote technical documentations for PNM application
- Presented the PNM application to the Vice President and directors

Research Student, University of Alberta, ECE Department   **Sep. 2016 – Dec. 2016**
House Price Analysis and Prediction
- Cleaned noisy data into readable matrices using Python
- Utilized LASSO linear regression method to analyze the Edmonton's house prices
- Predicted the house prices with precision as high as 90% compared to market data
- Awarded the Dean's Research Award

Research Student, University of Alberta, ECE Department   **May. 2016 – Sep. 2016**
Hierarchical Approach to Data-Driven Change Detection and Diagnosis
- Conducted literature review about detection and diagnosis algorithms
- Assisted in the development of an industrial fault detection system sponsored by Honeywell Company
- Tested the novel fault detection methods using data generated by the Tennessee Eastman model
- Utilized Matlab to make simulation models (i.e. tank systems)
- Wrote Python scripts for real-time fault detection algorithms

Software Developer, City of Edmonton   **May. 2018 – Dec. 2018**
- Developed six various data visualization applications for transportation and land use analysis
- Implemented a QGIS Python plugin tool for splitting an irregular polygon into equal pieces
- Collaborated with HBA consultants to optimize the entire provincial land use simulation process
- Achieved 10X process speed improvement by designing and developing a *Flow Clustering Tool* web application that involved multi-threading method to conduct weighted K-means algorithm on large dataset
- Managed geometry data on PostgreSQL server

Programming Projects **May. 2016 – Sep. 2018**

- Led a team of six to develop *Blue Flash*, an Android application for fast food delivery
- Developed *Compare Accessibility Application* to allow city planner optimize transportation
- Created *Find Your Home Application* to help people identify suitable places to live
- Built a dynamic dashboard showing census data of Edmonton
- Demonstrated machine learning algorithms on the distinguishment over the handwritten digits, reaching 91% precision
- Developed a client-server program utilizing TCP sockets for communication
- Utilized Arduino, LCD, and a joystick to design *Threes* – a math game, and *Gomoku* – a go game

VOLUNTEER EXPERIENCE

DDF Student Service **Aug. 2015 – May. 2017**

- Led a large group of volunteers to welcome newcomers for the University of Alberta welcome event
- Presented *Efficient Studying* for 150 newcomers at the welcome event
- Organized monthly club events

HONORS & AWARDS

- Dean's Research Award, 2016 – 2017
- The IEEE Northern Canada Section Scholarship, 2016 – 2017
- International Student Scholarship, 2015 – 2016
- Talisman Engineering Undergraduate Scholarship, 2015 – 2016
- University of Alberta Academic Excellence Scholarship, 2014 – 2015
- Faculty of Engineering Academic Excellence Scholarship, 2014 – 2015