

Yue Ma

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RESEARCH INTEREST

• Machine Learning • Artificial Intelligence • Computer Vision • Software Development •

EDUCATION

University of Alberta, Edmonton, Alberta, Canada

Sep. 2014 – Jun. 2019 (Expected)

Bachelor of Science in Computer Engineering

- GPA: 3.8/4.0

COMPUTER RELATED SKILLS

- Python, JavaScript, Java, C, C++, SQLite, HTML, CSS, VHDL, MATLAB, Assembly Language
- Web development and Android applications development
- Database management, including MySQL, PostgreSQL, and Vertica
- Machine learning, object-oriented software design, operating system concepts, user interface design, parallel programming, embedded system

PROFESSIONAL EXPERIENCE

Software Developer, City of Edmonton

May. 2018 – Dec. 2018

- Achieved ten times process speed improvement by designing and developing a Flow Clustering Tool web application that involved multithreading to conduct weighted K-means algorithm on the large dataset
- Developed seven various data visualization applications for transportation and land use analysis
- Collaborated with HBA Specto Inc. to optimize the entire provincial land use simulation process which resulted in better land approval and management
- Managed geometry data on PostgreSQL server

Researcher & Developer, Shaw Communications

Jan. 2017 – Dec. 2017

Research Project: Proactive Network Maintenance (PNM)

- Developed a cable field fault detection application based on CableLabs' PNM technique which was adopted for company-wide use after the presentation to senior executives
- Optimized the signal clustering method for PNM using density-based spatial clustering of applications with noise (DBSCAN) algorithm instead of the origin energy comparison method
- Simulated the PNM application under real-world conditions and it was able to detect 35% (previously 8%) cable issues before the users were impacted
- Conducted hands-on physical experiments to analyze cable plants' issues

Research Student, University of Alberta, Electrical and Computer Engineering

Sep. 2016 – Dec. 2016

Research Project: House Price Analysis and Prediction

- 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, Electrical and Computer Engineering May. 2016 – Sep. 2016

Research Project: Hierarchical Approach to Data-Driven Change Detection and Diagnosis

- Assisted in the development of an industrial fault detection system on behalf of the Honeywell Company
- Conducted literature review about detection and diagnosis algorithms
- 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

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 to optimize transportation
- Created Find Your Home Application to help people identify suitable places to live
- Built a Travel Zone Dashboard showing future land use for the City of Edmonton
- Developed Travel Amount Application to analyze the travel behavior of residents
- Demonstrated various machine learning algorithms on Handwritten Digit Recognition project (91% precision)
- Utilized Arduino, LCD, and a joystick to design Threes – a math game, and Gomoku – a Go game

VOLUNTEER EXPERIENCE

Let's Talk Science Outreach, University of Alberta

Oct. 2017 – Jun. 2018

- Introduced children to workshops and organized tours
- Conducted physics and chemistry experiments while explaining the science behind them

DDF Student Service

Aug. 2015 – May. 2017

- Led a group of twenty volunteers to welcome newcomers for the University of Alberta welcome event
- Presented Efficient Studying for 190 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
- University of Alberta China First-Year Excellence Scholarship, 2014 – 2015
- Faculty of Engineering Academic Excellence Scholarship, 2014 – 2015
- University of Alberta Undergraduate Scholarship, 2014 – 2015