

JILL WANG

Data Scientist

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EDUCATION

Honours Bachelor of Mathematics in Statistics, Computing Technology Option

University of Waterloo, 2020

Honours Bachelor of Mathematics in Computational Mathematics

University of Waterloo, 2020

EXPERIENCE

Data Scientist & Software Developer

Graphen (based in New York, USA)

📅 06/2019 - 08/2019

Organization building machine learning platforms leveraging their graph database to mimic human brain functionality

- Developed an unsupervised Holt Winter model on time series data and a supervised XGBoost model on multivariate data, both for the purpose of performing finance behaviour anomaly detection
- Performed power spectral density analysis to boost the performance of the Holt Winter Model
- Applied statistical methods to design a systematic way to calculate a risk (anomaly) score
- Advised company leadership on strategies to combine the company's core product, a fast and efficient graph database, with machine learning models that helped land a proof-of-concept project with one of the largest banks in Taiwan
- Developed the frontend of a React-based anti-money-laundering platform
- Built bilingual features using react-i18next to enable access for both the English and Chinese markets
- Crafted new React components for a bespoke UI library
- Refactored old code and modernized the codebase with React Hooks
- **Technologies: Python, Numpy, Pandas, scikit-learn, XGBoost, Git, JavaScript, React, GraphQL, Elasticsearch, SASS, CSS3**

Software Developer

Entrepreneurship Society at University of Waterloo

📅 01/2019 - 04/2020

University of Waterloo club connecting students to the Kitchener-Waterloo startup culture

- Developed a website with the UI/UX team
- Transitioned the static desktop website to a fully responsive, mobile friendly experience
- Link: <https://entsoc.ca/>
- **Technologies: JavaScript, React, SASS, CSS3, Git**

PROGRAMMING LANGUAGES & TOOLS

Python

R (Statistical Computing)

JavaScript, React

MATLAB

SQLite

C, C++

Bash

Git

AWARD & COMPETITIONS

Jewellery Shop Prediction Top 4%

- Predicting whether an online jewellery shop visitor will purchase an item from the shop using XGBoost with 93.33% accuracy
- **Technologies: Python, scikit-learn, XGBoost**
- 🔗 <https://www.kaggle.com/c/stat441datachallenge1/leaderboard>

Fashion MNIST Classification

- Using Fashion MNIST dataset (fashion items images), achieved 94.73% accuracy with a CNN that ran within 20 minutes
- **Technologies: Python, scikit-learn, TensorFlow Keras, CNN**
- 🔗 <https://www.kaggle.com/c/stat441datachallenge2/leaderboard>

NOVA - MLH StarterHacks 2018 Best Pitch (Finalist) Award

An Android app with an AI chat-bot designed to connect university students to on-campus mental health resources

- **Technologies: Python, Java, Android, Facebook Messenger API, NLP**
- 🔗 <https://devpost.com/software/nova-29i4zx>

RELEVANT COURSEWORK

Data Science: Statistical Learning-Classification • Sampling and Experimental Design • Generalized Linear Models & Applications • Applied Probability • Data Visualization • Computational Statistics and Data Analysis • Mathematical Statistics

Programming:

Object-Oriented Software Development (C++) • Data Types and Structures (Python) • Algorithmic Problem Solving (Python) • Computer Applications in Business: Databases (SQLite)

Applied Math:

Applied Cryptography • Deterministic Operation Research Models • Computational Methods for Differential Equations

VOLUNTEERING

Events Coordinator

StarterHacks

📅 08/2018 - 02/2019

Beginner-focused hackathon for over 1200 hackers

- Generated ideas for beginner-friendly and relevant tech education workshops
- Scheduled activities and planned logistics for the two day hackathon
- Managed a group of mentors and volunteers