Julia L. Wang

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Education

University of Toronto **Graduated: June 2024**

BS in Engineering Science, Major in Machine Learning, Minor in Engineering Business

- CGPA: 3.73 | Courses: Artificial Intelligence, Neural Networks, Data Structures, Algorithms, Deep Learning, OS

Technical Skills

Languages: Python, JavaScript, C++, Verilog, SQL, Java, HTML/CSS, C, R, MATLAB, Flutter, ARM Assembly
Technologies: React.js, Node.js, PostgreSQL, Object-Oriented Programming, PyTorch, Pandas, TensorFlow, Flask

Experience

Associate Full-Stack Software Engineer **May 2024 - Present**

Manulife John Hancock *Toronto, ON, CAN*

- Develop and maintain APIs for an annuities processing system using **Node.js**, **Next.js**, **C#**, and **AKS**.

Software Engineer Intern **May 2022 - May 2023**

Intel *San Jose, CA, USA*

- Agile full-stack development in **C++** for Quartus Prime FPGA design software's Signal Tap logic analyzer.
- Engineered clock tracing APIs for **Verilog** designs, achieving a 10s acceleration for designs with 60,000+ elements.
- Test-driven development to automate processes including signal matching and encrypted IP black-box creation.
- Implemented user-facing GUI features from direct client requests, resulting in a 2x increase in efficiency.
- Hosted weekly events for 25+ interns and discussed ethical AI as a speaker at the 2022 AI Global Impact Festival.

Software Developer Intern **Sep. 2020 - Jun. 2021**

Dataraction Inc. *Toronto, ON, Canada*

- Created front-end mobile features in **Flutter** integrating RESTful APIs for a career-centric mobile platform.
- Designed a **PostgreSQL**-driven business intelligence interface and a robust AI chatbot with **IBM Watson**.

Research & Projects

Undergraduate Thesis on Financial Data Privacy | Paper | *Python, TensorFlow* **Sep. 2023 - May 2024**

- Partnered with RBC to research **GAN**s and **auto-encoders** for privacy-preserving synthetic data generation.

Covalent Reactivity of Serine Active Sites | Paper | *CNNs, Python, PyTorch* **Sep. 2023 - Dec. 2023**

- Researching **XGBoost**, **3DCNN**, and **Deep CNNs** to predict reactive sites for drug design optimization.

Events Hub Web Application | GitHub | *React, Flask, PostgreSQL, CSS* **Sep. 2023 - Nov. 2023**

- Developed and deployed an events hub web application using **React, Flask**, PostgreSQL, and CSS, implementing a robust CI/CD flow and automated unit, regression, and load testing for seamless deployment and reliability.

RL Agents for Pokémon Battling | GitHub | *RL, DQN, Python, Keras* **Mar. 2022 - Apr. 2022**

- Created Reinforcement Learning (**RL**) agents trained with a Deep Q-Network (**DQN**) using Keras in **Python**.

Open-Source & Hackathons

yfinance PyPI Package Data Features | PyPI | GitHub | *Python* **Nov. 2023 - Dec. 2023**

- Added data retrieval features and bugfixes to yfinance, a package that downloads market data with over 11k stars.

Product Recommender System | GitHub | *sBERT, GCN, Python, PyTorch, Pandas* **Jan. 2023**

- Participated in a team of three to achieve 3rd place in the 2023 Daisy Intelligence AI Hackathon.
- Developed a **Python**-based recommender system using **sBERT** and a Graph Convolutional Network (**GCN**).

Fairness in Predicting Recidivism | GitHub | *NAS, RNN, RL, Python, PyTorch, NumPy* **Oct. 2022**

- Achieved 1st place in the 2022 MLH AIHacks4Good Hackathon through presentations to key stakeholders.
- Implemented a Neural Architecture Search model (**NAS**) with **RL** and a Recurrent Neural Network (**RNN**).
- Accomplished a 3.5x improvement in counterfactual fairness metrics while increasing accuracy by 2%.

DotsLogistics Solutions | GitHub | *React, CSS, Python* **Jan. 2021 - Apr. 2021**

- Led a team to win 2nd place in the 2021 Agorize AI for Business Competition, surpassing 302 competitors.
- Designed and pitched a complete business model, developing a prototype using **React** and a recommender system.