

Julia L. Wang

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EDUCATION

University of Toronto

Expected: May 2024

BASc in Engineering Science, Major in Machine Intelligence, Minor in Engineering Business

- CGPA: 3.68 | Relevant Courses: Artificial Intelligence, Machine Learning, OS, Software Engineering, Leadership
- Recipient of the Dean's Merit Award, Professor Morris A. Cohen Scholarship, and the Pesando Scholarship

EXPERIENCE

Software Engineer Intern

May 2022 - May 2023

Intel Corporation

San Jose, CA

- Test-driven development for an FPGA logic analyzer using **C++** to create clock source tracing APIs for **Verilog** designs. Optimized runtime significantly from 12 to 2 seconds in a design comprising over 60,000 elements.
- Automated signal matching for a wave simulator and added black-box creation for encrypted IPs in **Python**.
- Implemented user-facing GUI features in **C++** 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.

Data Engineer Intern

Jan. 2021 - Jun. 2021

Dataraction Inc.

Toronto, ON

- Utilized **PostgreSQL** to create a business intelligence interface providing insight into user profiles and behaviour.
- Implemented a robust AI chatbot and incorporated user prediction analysis features using **IBM Watson**.

Software Developer Intern

Sep. 2020 - Dec. 2020

Dataraction Inc.

Toronto, ON

- Front-end developer for a **Flutter** mobile app encouraging user feedback on videos based on specific criteria.
- Engineered numerous video, notification, and user models, including a badge reward system.

Biomedical Student Researcher

May 2019 - Aug. 2019

University of Toronto Institute of Biomaterials and Biomedical Engineering

Toronto, ON

- Assisted with data collection, performed data analysis, and documented research findings for drug synthesis.

Elected Engineering Science Representative

Sep. 2018 - May. 2019

University of Toronto

Toronto, ON

- Facilitated open discussions with faculty to address concerns raised by a diverse student body of over 250.

PROJECTS

Retail Product Recommender | GitHub | *sBERT, GCN, Python, PyTorch, Pandas*

Jan. 2023

- Developed a **Python**-based recommender model using **sBERT** for semantic encoding and Graph Convolutional Network (**GCN**), utilizing edge weights to output embeddings predicting item-user similarity.

Fairness in Predicting Recidivism | GitHub | *NAS, RL, Python, PyTorch, NumPy*

Oct. 2022

- Collaborated in a 4-person team to secure 1st place in the 2022 MLH AIHacks4Good Hackathon.
- Implemented a prediction model in **Python** using Neural Architecture Search (**NAS**) with a reinforcement learning trained controller network, achieving a 3.5x improvement in counterfactual fairness while maintaining accuracy.

Reinforcement Learning Agent for Pokémon Battling | GitHub | *RL, Python*

Mar. 2022 - Apr. 2022

- Experimented on greedy Q-policy selection, policy hyperparameter tuning, and the selection of training agents.

DotsLogistics Solutions | GitHub | *React, CSS, Python*

Jan. 2021 - Apr. 2021

- Led a team to win 2nd place in the 2021 Agorize AI for Future Business Competition, surpassing 302 competitors.
- Developed a prototype site using **React.js** and implemented a Graph Neural Network (**GNN**) in **Python**.

Arduino Delivery Robot | GitHub | *Arduino, C++*

Aug. 2020

- Designed an **Arduino** robot that uses IR sensors to navigate and delivers marbles upon detecting destinations.

Steadymate Body Temperature Bracelet | GitHub | *Arduino, C++, MIT App Inventor*

Dec. 2019

- Engineered a body temperature monitor for children with CIPA using **Arduino** and a companion Android app.

TECHNICAL SKILLS

Languages: Python, C/C++, Verilog, SQL, JavaScript, HTML/CSS, MATLAB, R, Flutter, ARM Assembly

Technologies: PyTorch, Numpy, Pandas, Scikit Learn, Matplotlib, React, Flask, Arduino, Raspberry Pi, AutoCAD