Zixin **Wei**

+1 (236) 777-0909 | jenci2114@gmail.com | jenci2114 | jenciwei

Education

University of Toronto *Toronto, Ontario, Canada*

Honours Bachelor of Science in Computer Science and Mathematics *Sep. 2020 - Jun. 2024*

- **Cumulative GPA: 4.00/4.00, Average: 94%** (where ≥85% is 4.00 GPA for each course)
- Relevant courses: Neural Networks and Deep Learning, Machine Learning, Natural Language Computing, Probabilistic Learning, Algorithms, Artificial Intelligence, Web Programming, Databases, Data Structures, Software Design, Systems Programming, Computer Organization

Skills

Languages Python, Java, C, C++, HTML, CSS, JavaScript, SQL, Shell, LaTeX, Assembly, R

Others PyTorch, Numpy, Pandas, Matplotlib, Scikit-learn, LightGBM, React, Django, Unix, Git, SpringBoot, Spring Batch, Vim

Experiences

Vector Institute, Machine Learning and Computational Healthcare Lab *Toronto, Ontario, Canada*

Student Researcher *Sep. 2023 - Present*

- Analyzed histopathology slides and patient information from 4 cohorts using advanced machine learning techniques
- Employed large models (HIPT, QUILT, UNI) to embed slides, followed by running a vision transformer for specific tasks
- Implemented attention rollout on large models to identify areas of focus during embedding generation
- Applied causal inference techniques to assess treatment effects across cohorts

The Goldman Sachs Group, Inc. *Toronto, Ontario, Canada*

Engineering Analyst *Sep. 2024 - Present*

- Interned from June 2023 – August 2023, obtained a return offer to work as full-time engineering analyst
- Worked on multiple tax engineering projects using **Java/SQL/Spring Batch**
- Automated the process of data lake ingestion, polling, and reconciliation of tax data, allowing reusability and easy modification

Projects

"An Image is Worth One Sentence": Fast Textual Inversion with Supreme Initialization *University of Toronto*

Neural Networks and Deep Learning Course Project *Jan. 2023 - Apr. 2023*

- Improved textual inversion, a state-of-the-art image personalization method, by increasing its convergence speed from 5000 steps to 100 steps
- Image personalization is dynamically customizing the given image(s) to match the user's prompt
- Pioneered the multi-token initialization method and the class/caption initialization method

Predicting Student's Correctness on Questions *University of Toronto*

Machine Learning Course Project *Nov. 2022 - Dec. 2022*

- Designed a neural network with **PyTorch** for predicting whether a student could correctly answer a question
- Used an autoencoder with pretrained item response theory parameters injected to its latent
- Achieved an accuracy that is ranked top 3 among the course (assessed on Kaggle)

Awards

Jun. 2024 **Regents Graduating Scholarship** University of Toronto

Sep. 2023 **John David Stewart Scholarship** University of Toronto

Jun. 2023 **Dean's List Scholar** University of Toronto

Nov. 2022 **Lecily (White) (Johnston) Hutcheson Scholarship** University of Toronto

Jun. 2022 **Dean's List Scholar** University of Toronto

Sep. 2021 **Mrs F N G Starr Scholarship** University of Toronto

Jun. 2021 **Dean's List Scholar** University of Toronto

Nov. 2019 **Top 75 in British Columbia** Canadian Open Mathematics Challenge

Interests and Activities

Volunteering **Hosted monthly concerts at the Senior's Centre,** The Maple Residences, Richmond BC *Sep. 2015 - Jun. 2020*

Music **ARCT in Piano Performance, First Class Honours,** The Royal Conservatory of Music *Jun. 2020*

Hobbies **Enjoys playing piano, playing badminton, swimming, and listening to classical music** *Ongoing*