Junyou (Simon) Li

+1 647-949-6654 | simonjunyou.li@gmail.com | github.com/SimonJunyouLi | linkedin.com/in/junyou-li/

EXPERIENCE

National Research Council Canada   May 2023 - Present
Machine Learning Research Assistant   *Waterloo, CA*
- Achieved **SOTA 98.75%** audio classification acc. on ESC-50 by implementing a **BEATs** fine-tuning pipeline
- Investigated **semantic-rich tokenizers**' and **video transformers**' efficacy for gait analysis
- Researching **diffusion** and **GAN** based **image-to-image translations** solution for speech enhancement
- Developing and evaluating a TENG contextual image synthesis pipeline utilizing **ImageBind**

Eon Media   Sep 2022 - Dec 2022
Machine Learning Intern   *Toronto, CA*
- Built an End-to-End **AWS docker** deployment **parallel processing pipeline** to consume 1,000+ 2hr videos daily from 13 models with **<10** EC2 Instances
- Implemented an **automated annotation** pipeline with Community Detection and Active Learning

Watolink   Nov 2021 - Dec 2022
Artificial Intelligence Engineer   *Waterloo, CA*
- Developed an **EEG signal processing API** for a mind-controlled communication system
- Deployed **CCA** with **KNN** and **IT-CCA** to classify neural activities that reached **99.7%** accuracy

PUBLICATIONS & MANUSCRIPTS

"A Data-Driven Environmental **Sound Classification** System with Acoustic TENG", submitted to IEEE CCECE 2024

"**Vision Transformers** for Age Prediction from Gait Energy Image Data", accepted to CVIS 2023

PROJECTS

Bert Simpson   Oct 2023 - Dec 2023
- Built & deployed a **BERT**-driven Twitter Sentiment Analysis system that reached **91%** accuracy

Monte Carlo Option Pricing   Oct 2023 - Present
- Building a **Quasi-Monte Carlo Simulation** of **dynamic hedging** for Exotic Options

Deep Reinforcement Trading Agent   Sep 2023 - Present
- Designing **Deep Reinforcement Learning** for trading strategies and **backtesting** for evaluation & refinement

7-Letter Scoring Scheme   Sep 2020 - May 2021
- Extended **Nussinov and Jacobson model** with **7-letter scoring scheme** to optimize SAR-CoV2 vaccine
- Achieved **similar effectiveness** and **29% more stable** compared to **Pfizer** COVID-19 vaccine

Haystackfs   Dec 2021 - Dec 2022
- A verified Discord bot for fast and secure file search used by **42k users** in **380+ servers** to manage **1M+ files**

ACCOMPLISHMENTS

NSERC Undergraduate Student Research Award	2023, 2024
1st at the International NeurotechX Competition	2022
J.P. Morgan Chase & Co, Software Engineering Virtual Experience	2022
Top 10 Globally in VEX Skills Challenge; Qualified for World Championship '20	2020
15th in Canada Senior Men Sabre; Captain of Varsity Fencing & Waterloo Fencing Club	2022 - Present

EDUCATION

University of Waterloo, Candidate for Bachelor of Computer Science, Honours	2026
Swiss Federal Institute of Technology in Lausanne, Erasmus for Master of Computer Science	2024

TECHNICAL SKILLS

Languages: Python, C, C++, SQL, Java, Kotlin, R, Racket, Haskell, JavaScript
Tech: AWS, GCP, CUDA, Docker, ElasticSearch, Kubernetes, Spark, DigitalOcean, Android, Azure
Libraries: PyTorch, Huggingface, OpenCV, scikit-learn, SciPy, Tensorflow, Keras, NumPy, Pandas, Matplotlib