Junyou (Simon) Li

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

TECHNICAL SKILLS

Languages: Python, C, C++, SQL, R, Java
Tech: PyTorch, TensorFlow, NumPy, Pandas, scikit-learn, AWS, GCP, CUDA, Docker, Spark, Kubernetes

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

EXPERIENCE

Artificial Intelligence Laboratory, EPFL — Mar 2024 - Present
Machine Learning Research Assistant — *Remote*

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-based **Cross-Modal Generation** pipeline for audio captioning

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
- Designed a face recognition pipeline by integrating **RetinaFace** for detection & **FaceNet** for feature extraction
- 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

"Self-Powered TENG for Environmental Sound Monitoring", Waterloo Nanotechnology Conference 2024

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

PROJECTS

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

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** while being **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	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