Nicholas Stranges

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EDUCATION

University of Toronto, Toronto, ON, Canada
Master of Science in Applied Computing, Artificial Intelligence Specialization (MScAC)

- Winner of the Vector Scholarship in AI. Awarded to top AI graduate students in Ontario.
- Investigating reasoning path optimization and episodic memory for AI systems.

Ivey Business School, Western University, London, ON, Canada
Bachelor of Engineering Science, Mechatronic Systems Engineering (Robotics)
Bachelor of Arts, Honours Business Administration (HBA)

- Completed an engineering and business dual degree. Achieved a 4.0 GPA in engineering.

WORK EXPERIENCE

Western University, London, ON, Canada May 2024-Sep 2025
Undergraduate/Graduate Researcher

- Lead author of the paper "What Is Missing: Interpretable Ratings for Large Language Model Outputs."
- Invented a new rating system for preference learning algorithms. The new method outperforms standard large language model (LLM) rating techniques up to 3x, leading to better LLM performance on tasks.
- Utilized large-scale distributed training clusters to train an 8-billion parameter model using LLM feedback.
- Gained a deep understanding of reinforcement learning methods for LLMs, sentence embedding models, semantic similarity, and transformer models using tools such as HuggingFace and PyTorch.

Continual Energy, Toronto, ON, Canada May 2024-Aug 2024
Research and Development Software Engineering Intern

- Worked directly under the company CEO. Led a small R&D team with many projects.
- Implemented an API-accessible data pipeline that automatically formatted data for the real-time training of an LSTM classification network in PyTorch, achieving 98% accuracy. Reducing equipment energy consumption.
- Led the development of a simulation software determining the energy requirements of buildings like datacentres. Built with Docker, JavaScript, PostgreSQL, and VB.NET. Actively handled requests for 200 users.

Tesla, Toronto, ON, Canada May 2023-Aug 2023
Controls Software Automation Engineering Intern

- Independently created and deployed a full-stack automatic code generation application in Python, replacing a task that would take an engineer two days to complete.
- Co-led the development and implementation of a new sensor programming standard adopted company-wide.
- Redesigned signal-processing algorithms to solve a novel sensing problem that had been unsolved for 3 years.

OTHER ACTIVITIES & INTERESTS

Big Brothers Big Sisters of London, *Mentor* Sep 2021-May 2025

- Mentored a child through essential development years, making a significant impact on a child's life.

Western Engineering Robotics, *Club President* Sep 2020-May 2024

- Led a club of thirty members and a software engineering team of ten members.
- Trained a policy reinforcement learning model and a walking critic classification model with TensorFlow while attempting to solve problems with bi-pedal walking. Included transfer learning of a ResNet50 network.

Ecolux, Co-Founder, *Principal* Sep 2023-Feb 2025

- Initiated an energy monitoring business to provide insights into household spending.
- Directed prototype development using React, Flask, Google Cloud, and MongoDB, attracting investor interest.
- Admitted to the Borealis Ai Let's Solve It Program to create deep learning methods for energy disaggregation.