Nico Schiavone

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EDUCATION

University of Toronto, Department of Computer Science **Sept 2024 – May 2026**
M.Sc. Computer Science *Toronto, ON*
Vector Institute Affiliate; Supervisor: Dr. Sheila McIlraith

University of Alberta, Department of Electrical & Computer Eng. **Sept 2019 – May 2024**
B.Sc. Engineering Physics with a Mathematics Minor *Edmonton, AB*
3.95/4.00 Cumulative GPA, First Class Standing

Languages/Tools: Python, Java, MATLAB, Julia, JavaScript, Git, Playwright, GCP
Awards: NSERC Undergraduate Research Award x 3, Dean's Research Award, Most Outstanding ECE Research Award.
Interests: Calligraphy, fountain pens, futsal, life drawing, writing, math competitions.

EXPERIENCE

University of Alberta **Jan 2023 – June 2024**
Machine Learning Researcher | Python, PyTorch *Edmonton, AB (Remote)*

- Designed an efficient **computer vision** algorithm in Python, utilizing a novel active learning algorithm that rivals state-of-the-art models while using 80% less annotation data, resulting in a **first author** conference paper, published at IEEE CAI 2024 and selected for **oral presentation (top ~5% of accepted papers).** (GitHub)
- Engineered algorithms using **reinforcement learning** and **large pretrained models** for data efficient classification based on adaptive image synthesis, resulting in another **first author** manuscript. (GitHub)

TELUS **Jan 2023 – Aug 2023**
Software Engineer Co-op | Python, Java, C++, SQL, GCP *Toronto, ON (Remote)*

- Spearheaded the development of a **full stack** XML scripting tool for a 20+ person team to automatically correct errors between sets of files, reducing the time spent per file by 95%.
- Developed a **full stack** document extraction tool, increasing pipeline efficiency by 90+% for teams of 10+ people.
- Prototyped a revenue prediction planning tool with GCP, reducing time spent on data analysis by 75%.

TRIUMF **May 2022 – Aug 2022**
Software Research & Development Co-op | C++, Python *Vancouver, BC*

- Independently operated and maintained an entire **DAQ gantry** and laser test facility for the Hyper-K group.
- Designed a Raspberry-Pi based safety and monitoring system in Python for a sensitive test facility of 15+ people.
- Contributed high quality code to the existing TRIUMF codebase, used by 50+ researchers nationwide.

PROJECTS

UNI-Scraper (GitHub): Web scraping tool using Scrapy and Playwright in Python for easy viewing of the entire catalogue of select ecommerce sites. Front-end built using JavaScript, jQuery, and DataTables for dynamic CSV display and filtering, including per-column search.
Huginn - Autonomous Retrieval Drone (GitHub): Self-guided custom drone using computer vision for object detection, real-time classification, and a novel magnetic interface for object pickup. Made in Python using PyTorch, Mavlink, and ROS.

PUBLICATIONS

N. Schiavone, X. Li (2024). *Reinforcement Learning with Generative Models for Compact Support Sets* (link)
N. Schiavone*, J. Wang*, S. Li, R. Zemp, X. Li (2024). *MyriadAL: Active Few Shot Learning for Histopathology*. [IEEE CAI 2024, **Oral Presentation** (Top ~5% of Accepted Papers)] (link)