# 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 also using 80% less annotation data, resulting in a **first author** conference paper, selected for **oral presentation** and published at IEEE CAI 2024. (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

**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.
**UniScraper** (GitHub): Web scraping tool using Scrapy and Playwright in Python for the ecommerce site Uniqlo, which allows for easy filtering of the entire site to find desirable items.

## 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 ~15% of accepted papers)] (link)