Mohammad Sami Nur Islam

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Education

McGill University, *Computer Science and Mathematics*   Sep 2021 – present │ Montreal, Canada
- **MSc (Thesis) Computer Science** under the supervision of Professor Doina Precup [Jan 2025 - Aug 2026 (expected)]
- **BA Computer Science and Mathematics** [Sep 2021 - Dec 2024]

Awards

Master's Research Scholarship,   May 2025
Fonds de recherche du Québec – Nature et technologies (FRQNT) [$ 33,334]

Hugh Brock Undergraduate Scholarship, *McGill* [$ 20,000]   Sep 2021

Experiences

Researcher, *MILA - Quebec Artificial Intelligence Institute*   Sep 2023 – present │ Montreal, Canada
- Researching methods for handling multiple contexts in continual **reinforcement learning**. Also worked on applying vision-language models (**VLMs**) in reinforcement learning settings.

Data Engineer Intern, *Rio Tinto*   May 2023 – Aug 2023 │ Montreal, Canada
- Designed and implemented Extract, Transform, and Load (**ETL**) components in **Python** (using Pandas, Scikit-learn).
- Leveraged **AWS services** (Lambda, Step Functions, S3) to orchestrate and test the **data pipeline**.
- Collaborated closely with the Data Science team, gaining a deep understanding of their notebooks, data pipeline requirements, and model deployment needs (on **SageMaker**).
- Interfaced regularly with a **Postgres** database to validate raw data as well as inference results.

Publications

Code as Reward: Empowering Reinforcement Learning with VLMs ⧉
David Venuto, **Mohammad Sami Nur Islam**, Martin Klissarov, Doina Precup, Sherry Yang, Ankit Anand [ICML 2024, Spotlight, 3.5% acceptance rate)]

Langevin Soft Actor-Critic: Efficient Exploration through Uncertainty-Driven Critic Learning ⧉
Haque Ishfaq, Guangyuan Wang, **Mohammad Sami Nur Islam**, Doina Precup [ICLR 2025]

Scavenging Hyena: Distilling Transformers into Long Convolution Models ⧉
Tokiniaina Raharison Ralambomihanta, Shahrad Mohammadzadeh, **Mohammad Sami Nur Islam**, Wassim Jabbour, Laurence Liang [Efficient Systems for Foundation Models (ES-FoMO) workshop @ ICML 2024]

Projects

ProjectX Undergraduate Research Competition (by U of T AI),   Sep 2023 – Jan 2024
First-prize ($10000)
- Core member of the **McGill team** investigating cross-architecture knowledge transfer feasibility from slower attention-based **LLM** architectures to the faster, long convolution-based ones like Hyena.
- The research aims to **eliminate** the need to **train** these more efficient models **from scratch**, saving resources.
- Coded the distillation pipeline in **PyTorch**, designed experiments, and distributed tasks.

Skills

Programming Languages — Python, SQL, C, Java, JavaScript │ **Web** — React, Redux, MUI │ **Cloud/MLOps** — AWS, SageMaker, Docker, GitHub Actions, SLURM │ **Databases** — MongoDB, Postgres, MySQL │

Deep Learning / Machine Learning Libraries — PyTorch, Scikit-learn, NumPy, Pandas │ **Operating Systems** — Linux, Windows

Extracurriculars

Bootcamp Technical Project Manager, *McGill AI Society* ⧉   Apr 2023 – Jun 2024 │ Montreal, Canada
Helped redesign the curriculum and the assignments for the boot camp. Mentoring boot campers on their capstone projects.