

# Mohamed Mohamed

Master's student in ML from McGill University | Mila

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## EDUCATION

**McGill University | Mila, Machine Learning**

**M.Sc Thesis : Computer Engineering**

GPA: 4.0/4.0

Thesis: Engineering High-Capacity Deep Learning Generative Models for 3D Medical Imaging: Scaling Optimizations and Applications

Montreal, QC

January 2024- April 2026

**McGill University, Software Engineering**

**B.Eng: Software Engineering**

GPA: 3.55/4.0

Awards: 2x Tomilson Engagement Award for Mentoring

Montreal, QC

September 2018- April 2023

## EXPERIENCE

### MACHINE LEARNING ENGINEERING INTERN AT ERICSSON

*Ericsson / Montreal, CAN / 2023 September – December 16 weeks*

- Developed scalable distributed machine learning data pipelines enhancing the efficiency of machine learning models.
- Researched and implemented well tested machine learning federating learning algorithms and tools using Flower.
- Implemented a React application to configure and monitor machine learning systems in telecommunication use cases.

### MACHINE LEARNING RESEARCH INTERN AT MILA | MCGILL

*McGill / Montreal, CAN / 2023 May – August 16 weeks / Professor: Tal Arbel [tal.arbel@mcgill.ca](mailto:tal.arbel@mcgill.ca)*

- Optimized internal ML infrastructure by integrating distributed training, preprocessing of large medical data, managing slurm jobs, profiling, compiling models and adding mixed precision, resulting in reduced training time and increased scalability.
- Developed personalized medical generative models using latent diffusion focusing on a variety of perceptual compression models such as AAE, VQA and VAE to construct compact latent representation as well as building a StyleGan to model longitudinal disease progression.

### SOFTWARE ENGINEERING INTERN AT GOOGLE

*Google / Waterloo, CAN / 2022 May – July 12 weeks*

- Enhanced the efficiency and performance metrics of cached feature flags by refining accuracy measurement techniques and by implementing precise performance-based optimizations through algorithmic enhancements.
- Developed a robust API for Android Google Chrome, streamlining the integration of cached feature flags. This innovation significantly enhanced Chrome's overall architecture, facilitating the development of numerous features and ensuring the clarity and simplicity of future codebases.

### SOFTWARE ENGINEERING INTERN AT MICROSOFT

*Microsoft / Redmond, USA / 2021 June – August 12 weeks*

- Engineered an efficient pipeline for the seamless data migration from Cosmos streams to Microsoft Azure databases
- Enhanced our analytical capabilities and decision-making by integrating the new database, achieving over a 10x query speedup time.
- Integrated the migrated data into telemetry reports, empowering the execution of more efficient equivalent SQL queries.

### SOFTWARE DEVELOPER INTERN AT ERICSSON

*Ericsson / Montreal, CAN / 2020 May – August 16 weeks*

- Developed an innovative Android application enabling real-time display of webcam video feeds.
- Developed a React interactive web application facilitating seamless peer-to-peer video and text communication through webRTC.

## EXTRACURRICULARS

### LLM WEB NAVIGATION AGENT 2024 NLU WITH DEEP LEARNING

- Built a web navigation agent on Chrome using Selenium by utilizing pre-trained large language models (LLMs) on the WebLINX benchmark.
- Demonstrated scalability and performance of these LLMs in a real-world web environment.

### MCGILL ARTIFICIAL INTELLIGENCE SOCIETY 2021-2023 ACADEMIC LECTURER / TECHNICAL PROJECT MANAGER

- Delivered 16 hours of comprehensive course content on introductory machine learning concepts to a cohort of 30 first and second-year students.
- Tutored students in creating their individual ML projects with a wide variety of intriguing applications as well as creating course assignments.

### MCGILL VARSITY SWIMMING 2018-2019 STUDENT ATHLETE

- Competed for the McGill varsity team as well as the Bahrain Elite Swimming team in international championships in the Arabian Gulf.