(647) 401-7312 Toronto, Ontario, Canada mariam.walaa16@gmail.com

Mariam Walaa

MSc Applied Mathematics

github.com/mariamwalaa linkedin.com/in/mariamwalaa

EDUCATION

Master of Science in Applied Mathematics, Toronto Metropolitan University 09/2023 - 04/2025

Thesis: Analysis & Predictability of Centrality Measures in Competition Networks

Honours Bachelor of Science in Mathematics, Statistics & GIS, University of Toronto Scarborough 09/2018 - 04/2023

TECHNICAL SKILLS

Python, , SQL, R, ET_FX, Git, Jupyter, Databricks, PowerBI, BigQuery, Anaconda, OpenAI, AzureML **Languages & Tools** pandas, PySpark, SciPy, NumPy, Matplotlib, Statsmodels, Scikit-Learn, spaCy, Tidyverse, Tidymodels **Software Packages**

INDUSTRY EXPERIENCE

Graduate Al Research Intern 05/2024 - 05/2025

Unilever Canada

Toronto, Ontario Developed a Graph Neural Network in PyTorch Geometric to recommend sustainable ingredient substitutions, boosting

greenhouse gas emissions reduction by over 400%. Finetuned a GPT-4 Turbo to evaluate GNN recommendations. **Data Science Analyst** 01/2022 - 08/2022

Loblaw Companies Limited Brampton, Ontario

Worked in Joe Fresh Markdown Optimization team, translating business requests to data science features in Python/SQL.

• Developed a dynamic, time-series PowerBI dashboard, a heuristic for Seasonal Product Identification to maximize sell-through, and investigated regression for price elasticity.

Machine Learning Intern 05/2019 - 08/2021

Altair Engineering Inc.

Toronto, Ontario

- Built NLP recommendation engine using spaCy, developed NLU/question answering & DL document classification apps.
- Developed novel Simpson's Paradox automatic detection feature in Altair KnowledgeSTUDIO data science software.
- Contributed to marketing campaign on Altair KnowledgeSTUDIO software for electric vehicle adoption predictive analytics.

ACADEMIC EXPERIENCE

Graduate Assistant 09/2023 - 04/2025

Toronto Metropolitan University

Toronto, Ontario MTH110/210/314 Discrete Math I & II, MTH140/240 Calculus I & II, MTH141 Linear Algebra I, and MTH380 Probability & Statistics I.

Teaching Assistant 01/2022 - 04/2023

University of Toronto Scarborough

Scarborough, Ontario

Assisted in running labs and grading MATB61 Linear Programming & Optimization, MATA22 Linear Algebra I, CITC01 City Studies.

Research Assistant 11/2020 - 01/2022

University of Toronto

Toronto, Ontario • Wrote 15 R tutorials and survey paper on reproducible data science workflows using LearnR, TidyModels, GitHub Actions, Targets.

TECHNICAL PROJECTS

Open-Source Data Science Projects

Tools: pandas, NumPy, SciPy, Matplotlib, seaborn, scitkit-learn, tkinter, sklearn, spaCy

- Developed a stock portfolio optimization tool with visualization capabilities and risk-return criteria selection.
- Developed predictive models for employee turnover in corporate settings using socio-economic/demographic data.
- Developed a recommendation system and a GUI for arXiv research papers using NLP machine learning techniques.

SCHOLARSHIPS & AWARDS

2024 Toronto Met Graduate Fellowship (TMGF)	\$18,900
2024 Mathematics Graduate Award (MGA)	\$11,100
2024 Graduate Student Stipend	\$7,500
2024 Geoff Boyes Graduate Award	\$2,000
2022 Loblaw Companies Limited National Scholarship	\$2,500
2018 Schulich School of Business Innovative Startups Award	\$1,000
2016 Schulich School of Business Entrance Scholarship	\$2,500
2016 Home Depot Orange Scholars Homer Award	\$2,500
2015 Jr. Economic Club of Canada Scholarship	\$5,000

ACTIVITIES

Data Science Writer, KDnuggets	09-2020 — Present
Member, University of Toronto Data Lab	11-2020 - 01-2022
Co-Founder & Co-Organizer, Toronto EdTech Meetups & Hackathons	01-2018 — 10-2018