Sarah Agib

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EDUCATION

University of Toronto Sep 2019 - May 2025

BASc Engineering Science, Major: Machine Intelligence, Certificate: Engineering Business.

SKILLS

- **Programming Languages:** Python, C, SQL, MATLAB, SAS, JavaScript, VBA
- **Programming Environments:** VS Code, Spyder, Teradata, SAS Enterprise, Jupyter Notebook
- **Python Libraries**: NumPy, Pandas, Matplotlib, PyTorch, SkLearn, Jax, Objax, TensorFlow, xlwings, selenium
- **Operating Systems:** Windows, Linux, Unix
- **3D Modelling**: Fusion360
- **Languages:** English, French
- **Microsoft:** Excel, Word, PowerPoint

WORK EXPERIENCE

Software Engineer Intern – F.O. Process Engineering | RBC Capital Markets May 2023 - Apr 2024

- Created the mechanism and dashboards used to load and interpret daily commodities book and risk position valuations on new internal RiskHub software; including views personalized to the preferences of quants and traders. Sped up go-live date from September 2024 to May 2024.
- Improved the efficiency of RBC's validation of ISDA's Standard Initial Margin Model calculation by 95%; creating a portable python-excel script using the Xlwings library and VBA that automates SIMM testing.
- Automated the daily uploading of RMG murex trades file containing cash flows affecting equity hedges by producing a python script using the Selenium library which find the necessary file and interact with the web interface of the Rates Murex software to upload daily. This automation reduces operational risks and delays.

Analyst – Business Intelligence & Information Management | RBC Jun 2022 – Aug 2022

- Contributed to RBC's immigration from SAS to Python by converting a legacy SQL and SAS program to Python using Pandas, NumPy, and Calendar libraries and obtained exactly matching outputs.
- Provided third-party testing to newly SQL and Python programs by parallel running these programs using Teradata and Spyder against their original SAS counterparts, comparing results, identified errors, and summarised findings in a formal report which sped up production release by 3 months.

ENGINEERING PROJECTS

Adversarial Training and Observational Fairness on COMPAS Dataset Jan 2022 – Feb 2022

- Developed linear regression model in Python (Pandas, NumPy, SkLearn and PyTorch) using features provided by COMPAS dataset and obtained accuracy equivalent to that of the commercial risk assessment software COMPAS.
- Compared accuracy, calibration, and false positive parity of Linear Regression model to that of adversarial trained Neural Network and demonstrated improved observational fairness without accuracy impairment.

RELEVANT COURSES

Computer Algorithms and Data Structures
Introduction to Machine Learning
Machine Intelligence, Software & Neural Networks
Artificial Intelligence
Matrix Algebra and Optimization
Probabilistic Reasoning
Foundations of Computing
Operating Systems Software
Digital & Computer Systems
Introduction to Databases