Matthew Mamelak

Toronto, Ontario

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Personal Website
LinkedIn

Education

Bachelor of Applied Science – Computer Engineering (3.78 Cumulative GPA), **Queen's University**, Kingston, ON 2020-2024

- ***Honors:*** Principal's Scholarship, Dean's Scholar (2021, 2022, 2023)
- ***Leadership:*** Undergraduate TA for Fundamentals of Electromagnetism, Bounce Back Engineering Mentorship Program
- ***Extracurricular:*** Overbrook Investment Club, Intermural Hockey & Softball

Relevant Courses:

- Intro to Data Science, Algorithms & Data Structures, Database Management Systems, Engineering Economics & Finance

Computer Languages & Software Tools:

- Python, Java, C/C++, SQL, Visual Basic (VBA), R, HTML, CSS, JavaScript, PHP, CUDA GPU Programming, VHDL, Verilog, Microsoft Power Apps, Power Automate, Power BI, MATLAB, Tableau

Certificates:

- Bloomberg Market Concepts, Master Advanced Excel Data & Analytics Skills, Machine Learning A-Z™ Udemy Course

Work Experience, Extracurricular Clubs & Activities

Business Automation Analyst, Business Innovation Team May 2022 – Present

Toronto-Dominion Bank (TD), Toronto, ON

- Summer internships (2022, 2023) and part-time employment throughout academic school year (2022-2023), focusing on digital data transformation processes.
- Design and implement data pipelines using the Microsoft Power Platform, TypeScript, VBA & Python.
- Effectively managed data extraction, manipulation, and visualization tasks on large-scale datasets, handling more than 2,000,000 rows of data, employing libraries such as Pandas, NumPy, Dask DataFrames & PySpark.
- Created a quarterly attestation tool using the Microsoft Power Platform, responsible for tracking and managing over 700 officers within wealth operations.
- Employed Visual Basic Macro Programming and Python to develop a sophisticated business control & audit dashboard that allows senior managers to sort and track large data sets and confirm adherence to banking procedures.
- Designed and deployed a Power App, integrating Power Automate to seamlessly connect data from Microsoft Excel Online and Power BI Dashboards. This app streamlines FTE calculations for the Client Transfer Services cost center, improves resource management, and reinforces compliance with financial protocols. As a strategic digital tool, the app is currently used by 20 senior managers to track work location and full-time employee (FTE) status for over 300 officers.

Software Developer August 2022 – Present

Queen's Algorithmic Networking & Trading Team (QUANTT), Kingston, ON

- Worked with two students to develop a buy-side quantitative trading algorithm using Python and the QuantConnect platform.
- Created a pairs-trading algorithm to autonomously predict stock market trends and execute buy/sell decisions.
- Finished 1st place in a 4-month trading period competition, achieving a 13% investment return. Awarded $500 cash prize.

Consulting Design Team Member, Health Care Analytics and Optimization Lab September 2022 – May 2023

Queen's Machine Intelligence & Neuroevolutionary Design (QMIND), Kingston, ON

- Collaborated with a team of students to develop a machine learning model leveraging the BERT transformer model to analyze the impact of Twitter sentiments on stroke treatment using Tissue Plasminogen Activators (TPa).
- Employed Git version control (+ Jira, Confluence) to manage the development process and create an agile work environment.
- Successfully presented our findings and potential implications in stroke treatment practices to over 200 people.

Software Development Intern May 2021 – September 2021

Custom Biologics, Toronto, ON

- Collaborated with a team of scientists to devise, program, and implement a barcoding strategy to track the analysis of clinical samples for the SARS-CoV2 virus using a point of care diagnostic instrument.
- Conducted time series analysis (ARIMA model) and regression modelling to interpret historical price movements and predict labor costs related to entry level lab technician roles, leveraging Tableau for data visualization and modelling.

Projects

**Check out my personal website to see more projects*

Open Seat – QHACKS 2023, Kingston, ON

- A real-time library occupancy tracker using affordable Near Field Communication (NFC) tags. Easily locates available seats, saving students valuable study time during busy library hours.
- Developed a front-end interface using HTML, CSS & JavaScript, and back-end using PHP, SQL & Apache Server.

Machine Learning Activity Classifier, Kingston, ON

- Developed a real-time activity classifier that detects if a person is walking or jumping by implementing a logistic regression classifier with pre-trained personal raw data.

References Available Upon Request