Seth McGregor

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Education

University of Toronto   **September 2019 – May 2024**
Bachelor of Applied Science in Industrial Engineering   *Toronto, Ontario*
- Dean's Honour List student, 3.73 GPA
- Minor in Artificial Intelligence Engineering & certificate in Renewable Resource Engineering.

Experience

Castleton Commodities International   **May 2022 – Present**
Quantitative Analyst – Natural Gas Trading   *Calgary, Alberta*
- Worked directly with three traders as the sole analyst to forecast natural gas supply and demand, and to create and test market strategies for trading futures and options contracts.
- Created over 25 interactive risk and data visualisation web pages to support trading strategies using web APIs, SQL, and Pandas for analysis, flask and dash apps for web hosting, and AWS S3 buckets for data sharing.
- Created a probabilistic futures spread pricing model that uses forecasted natural gas storage levels given different weather scenarios to determine potential trades.

MorLAB   **May 2021 – August 2021**
Undergraduate Research assistant   *University of Toronto, Ontario*
- Conducted a literature review on optimal referral strategies to minimize cataract surgery wait times in Ontario.
- Analyzed and presented summaries of existing literature on pooled lists, discrete event simulations, and utility functions.

U of T Human Powered Vehicle Design Team   **September 2019 – June 2020**
Designer, Former Head of sponsorships   *Toronto, Ontario*
- Independently designed and manufactured the bike cranks, using Solidworks and a CNC, for the team's 2020 speedbike.
- Created marketing materials and approached and secured sponsorships for the team.

Theory of Knowledge Conference   **September 2017 – January 2019**
Head of Content   *Maastricht, The Netherlands*
- Worked on a team of 12 students to run a philosophy conference with 50 facilitators and a $10,000 operating budget.

Projects

Crossword Solving Artificial Intelligence   **Winter 2022**
- Implemented a Bi-LSTM neural network with concat pooling to predict crossword answers based on a given clue.
- Achieved a final top-5 accuracy of 65%, outperforming mean human performance.

Predicting and Optimizing Charitable Contributions   **Fall 2021**
- Created a 95% accurate model to predict charitable contributions by zip-code using a stacked logistic and linear regression model with lasso regularization based on data from the IRS.
- Optimized a canvasing route to visit the most charitable zip-codes while minimizing distance travelled.

Risk Based Accounting Project   **Fall 2020**
- Used Excel and @RISK to predict expected rate of return based on simulations of a hypothetical company's revenue.
- Analysed cash flows to determine profitability by accounting for inflation, tax rates, depreciation, and interest payments.

Skills

Languages: Python, Java, C, SQL, R, AMPL, MATLAB
Other skills:Fluent in French, Excel, Access, Word, Numpy, Pandas, PyTorch, SKlearn, GIT, Data Modeling

Extracurricular / Accomplishments

- Worked as a part-time server and barista throughout university
- Founder and President of the UWC Maastricht 20-person chess club
- Completed the Camino de Santiago 800km hike

- Engineering mentor
- Competitive academic trivia player
- Former competitive mogul skier