Profile

I am a quantitative researcher with a focus on applying innovative techniques in data science, machine learning and quantitative finance to improve decisions about investments and risk. I have extensive experience leading and managing research initiatives, working with unstructured and alternative datasets, and presenting compellingly to both technical and non-technical audiences at the executive and board level. I am passionate about all stages of the investment data science process, from generating original investment theses, sourcing new data and writing production quality code to translate creative ideas into actionable signals.

Professional Experience

Director, Cross Asset Strategies, OMERS Capital Markets

Dec 2016 - present | New York City

- Responsible for leading data-driven research initiatives for a \$25B multi-asset portfolio, working across a variety of systematic, eventdriven and fundamental public market strategies
- Built partnerships with senior portfolio managers to develop a deep understanding of their investment process, identify gaps in risk coverage and portfolio analytics, and map out research initiatives
- Conceptualized and oversaw the end-to-end development of next generation quantitative risk models, which incorporate unstructured and high-dimensional data, clustering methods and predictive analytics to enhance risk forecasts
- Designed platform to parse high-volume text data using deep learning models to extract alpha signals. Platform features such as semantic search, classification and sentiment have been integrated into live applications and thematic investment strategies
- Developed ensemble models to evaluate the probability of profit on new trades, used to improve signal timing and position sizing
- Led the design and development of a department-wide analytics system that centralizes and automates predictions and insights from models, along with a highly dynamic no-code front end platform to share insights and enhance engagement with PMs

Previous titles at OMERS included Quantitative Analyst (2016), Senior Analyst (2017), Principal (2018), and Director (2019 - Present), reflecting accelerated career track and progressively more senior titles.

Senior Financial Engineering Analyst, *Ontario Financing Authority*

May 2015 - Dec 2016 | Toronto

• Provided quantitative research and risk modeling for public debt and borrowing program, focusing on derivatives and fixed income.



Education

Master's Degree, Finance, University of Toronto

Sep 2018 - Jun 2020

- GPA: 3.9/4.0. Sponsored by OMERS and completed while working full-time
- Coursework included multivariable calculus, machine learning and financial theory with an emphasis on practitioner applications

B.A. Joint Honours Economics and Finance, *McGill University*

Sep 2011 - Jun 2015

CFA Charterholder 2019



Skills

Programming

7+ years years experience using Python, Matlab and SQL for quantitative research in a production environment

Quantitative Finance

Strong background in risk modeling (VaR, GARCH, EVT), portfolio optimization (MVO, HRP, Black Litterman) and risk factor construction/backtesting

Data Science

Hands on experience mining datasets with finance intuition, and large-scale data modeling with parallel/batch computing (pandas, numpy, Spark/Databricks)

Machine Learning

Deep domain expertise adapting ML techniques to investment problems, including NLP, ensemble methods, clustering and neural networks (scikit-learn, Tensorflow, Pytorch, Keras)