Qien (John) Song

Toronto, Ontario Tel: 905-6175609 Email: johnsoong216@hotmail.com

Education

University of Toronto: cGPA 3.96/4.0 — 2017-2022

- Incoming 4th Student pursuing a Mathematics & Economics Specialist and a Computer Science Major

Skills

- Fluent in Python (and its data analytics and machine learning packages), SQL, and having rudimentary understanding and experiences in R, Java, MATLAB and C++
- Strong understanding of natural language processing, probabilistic learning and machine learning techniques (including regression, classification and variants of neural networks)
- Experience in data analytics with financial and alternative data in drawing statistical inferences, visualizing complex data, and automating data production and reporting procedures

Projects *(https://github.com/johnsoong216)*

- Built a Python library that optimizes portfolio allocation using mean-variance model, supporting leverages, short-selling, and optimization based on risk-reward measures (e.g. Sharpe & Treynor) and higher moment matrices (skewness & kurtosis)
- Constructed an Encoder-Decoder network using LSTM cells that generates music melodies
- Built a Python library that calculates multi-player poker hand odds and scenarios
- Created a contrarian betting system on the European football Asian handicap market
- Created a python library using variants of the Kalman filter, to be used in data smoothing and estimation.
- Working on a news analysis tool that attempts to quantify level of ideological bias using recurrent neural network

Experience

Investment Analyst Co-op

Ontario Teachers' Pension Plan, Strategy & Risk — *Sep 2019 – Aug 2020*

- Explored hedging and rebalancing strategies for tactical asset allocations by analyzing market correlations in history and what-if simulations.
- Used robotic automation processes to generate portfolio reports that capture major risk and valuation changes, and the underlying reasonings behind position moves.
- Built and automated a dashboard in PowerBI with risk metrics on liquidity, market, counterparty and etc.
- Built a Python toolkit to simplify data exploration procedures by generating reports on a dataset's feature intensity, stability and overall quality.

Business Analyst Intern

Capital One, Canada Credit Policy Strategy — *May 2019 – Aug 2019*

- Rebuilt credit valuation models that identify and optimize credit card customer segments with logistic/linear regression techniques, using Bayesian inferences and stepwise selection concepts
- Expanded model validation infrastructure by building Python toolkits that examine and backtesting model reliability and monitor model robustness in the long term

Economics Research Assistant

University of Toronto, Munk School of Global Affairs with Professor Mark Manger — *Sep 2018 - Apr 2019*

- Collected macroeconomic data from the IMF, OECD, World Bank and national Central Banks
- Analyzed labour time-series data to observe and account for productivity and wage discrepancies across nations using R

Certificate & Awards

GARP Financial Risk Manager Part I	2018 Nov
Coursera Machine Learning	2020 Jan
GRE (Verbal: 168, Quantitative: 170, Analytical: 5.5)	2020 May
Baruch C++ Programming for Financial Engineering Certificate	2020 Oct