KATHY TONG

(+1) 201-423-0621 | kathykxtong@gmail.com |New York City, NY | Linkedin | Github

TECHNICAL SKILLS

Programming Languages & OS:	Python, R, R-Studio, SQL, shell scripting | Windows, Linux
Computational Tools & IDE:	Anaconda (Jupyter notebook), VS Code, PyCharm, Github, Bitbucket, Docker, AWS
Libraries:	NumPy, Pandas, Scikit-Learn, Matplotlib, Keras, TensorFlow, Shiny, Bloomberg API
Machine Learning Skills:	Data ETL, Regression, Classification, Time Series, Deep Learning, Decision Tree

EXPERIENCES

Centiva Capital, New York - Index & Quantitative Analyst Oct'20 – May'23

- Research and build out a systematic, automated trading strategy for equity index events that leverages our prediction **alpha models** to anticipate index member changes while improving trading signals
- Performed daily portfolio management tasks in portfolio rebalancing, corporate actions analysis and performance monitoring to ensure portfolios are positioned within investment parameters and risk exposures are well managed
- Conducted backtesting historical data via **Python Pandas** and **Bloomberg API**, analyzed portfolio risk attribution using **Barra** factors and used **optimization models** to come up with hedging baskets to offset factor risk
- Perform **ad-hoc exploratory statistical analysis** on financial data across multiple large complex data sets from a variety of structured and unstructured sources such as SEC filings, **web scraping**, **json data, sentiment analysis**
- Collaborate with software engineers to design feeds for new data sources from third-party vendors while participating in **data architecture** decision-making to support the internal equity database platform

Virtu Financial, Toronto - Index & ETF Research, Program Trading Desk Dec'18 - Oct'20

- Applied quantitative analysis by developing a **k-means model** to identify groups of stocks with similar trading behaviors in **Python scikit-learn** to assist in reforming intraday VWAP curve for algo team
- Built live **data visualization** dashboard in **R Shiny** used to track critical metrics such as index basket and intraday market performances to enhance productivity and user friendliness
- Build **SQL databases** and **Python** scripts for systematic generation of rules-based projection model on equity indices
- Architected and maintained **SQL Server** data warehouse with **ETL** pipelines via **Python** to feed into upstream models in both **Windows** and **Linux** environment
- Collaborate with the algo trading, **data analytics** and operations team to maintain algo curves, aid in testing the functionality of our internal **tick data** for equity universe, and assist in transaction cost analysis (TCA) reporting

Manulife, Toronto - Equity Risk Oversight Analyst, Financial Risk May'17 - Nov'18

- Conducted **statistical analysis** such as building a **PCA model** in **R** to analyze swap rates to reset annual Rho limits to present to senior management, and building a **t-copula model** in **R** for re-assessing annual cross-asset tail risk limits
- Worked with PMs to construct creative ways to interpret drivers of hedging program returns and interactive visualizations to display market performance by building dashboards in **R Shiny** and **Python**

Manulife, Toronto - Internships

Co-op Performance Reporting Analyst, Global ALM Sep'16 - Dec'16

- Built a Target Market Yield (TMY) curves engine to reproduce single currency curves in less than half amount of time
- Coded **VBA macros**, **SQL queries** and dynamic procedures to enhance and automate existing analytical tools

Co-op Business Analyst, Investment Division Information Systems Jan'15 – Apr'15

- Worked with PMs and technical lead to design and roll-out a fund mapping software project that manages basis risk of each business unit, tasks include **regression testing** using derivative holdings and tailoring requirements

EDUCATION

Graduate Non-Degree Courses, Arizona State University Dec'21 – Present

- Data Processing at Scale CSE 511, Data Visualization CSE 578, Artificial Intelligence CSE 571

Passed Level 3 of the CFA Exams May'19

Bachelor of Mathematics, University of Waterloo April'17

- Professional Risk Management major, Statistics minor