Jim Qu

EDUCATION

Rotman School of Management & Department of Economics, University of Toronto — Toronto, Ontario
Master of Financial Economics — *Expected June 2027*
- **Academics:** cGPA 4.0/4.0
- **Relevant Courses:** Corporate Finance II (MBA), Options and Futures Markets (MBA), Econometrics (MA), Microeconomics (MA), Financial Economics (MA)

Faculty of Arts & Science, University of Toronto — Toronto, Ontario
Bachelor of Science (Specialist in Financial Economics, Major in Statistics) — *Sep 2021 – Jun 2025*
- **Academics:** cGPA 3.86/4.0
- **Awards:** Dean's List Scholar All Years (2022–2025)
- **Relevant Courses:** Machine Learning (A+), Risk Management (A+), Time Series Analysis (A), Financial Econometrics (A), Financial Economics (A-), Corporate Finance (A-), Advanced Macroeconomics (A-)

INDUSTRY CERTIFICATIONS

- **CFI:** VBA for Finance, Fixed Income, DCF Valuation Modelling, Corporate Finance — *2025*
- **Bloomberg Market Concepts:** Fixed Income, Equities, FX, Bloomberg Terminal Basics — *2025*
- **Training The Street:** Financial Statements, DCF Modelling, Merger Modelling — *2025*
- **Coursera:** Databases and SQL for Data Science, Machine Learning with Python

PROFESSIONAL EXPERIENCE

TD — Toronto, Ontario
Machine Learning Intern – Analytics, Insights, and AI — *May 2024 – Aug 2024*
- Utilized SQL to query 1.2 million transaction records across 5 datasets and used Python (pandas) to automate data-cleaning pipelines
- Prototyped LR, RF, XGBoost for fraud detection, using class weighting and PR-AUC optimization to improve precision by 10%
- Employed scikit-learn and NumPy to conduct feature engineering and hyperparameter tuning of classification models via CV
- Monitored monthly model performance with thresholds recalibration, and used Power BI to report feature importance/SHAP values

RELEVANT PROJECTS

Systematic Rates Momentum Research — *Jun 2025 – Jul 2025*
- Designed country-level rates portfolio construction using momentum-based signals, with risk-parity weighting under DV01 constraints
- Built momentum signals on daily returns across 20 G10 sovereign futures, selecting windows via heatmap with box-filter smoothing
- Conducted forward-chaining walk-forward CV with z-score evaluation to identify OOS-stable parameters and mitigate overfitting
- Delivered rigorous portfolio backtests and Power BI dashboards for risk/performance analytics to support monthly rebalancing

Portfolio Risk Management Project — *Jan 2025 – Mar 2025*
- Quantified market and credit tail risk for a developed market multi-asset portfolio to optimize asset allocation with position limits
- Performed GBM-based Monte Carlo simulation in Excel on an equity portfolio's weekly returns, yielding a 10-day 99% VaR of 4.3%
- Automated a CreditMetrics model through VBA and computed portfolio VaR under 10,000 simulated rating-migration scenarios

VIX Market Inefficiency Research — *Sep 2024 – Dec 2024*
- Used R to fit ARIMA-GARCH on VIX to detect momentum and volatility clustering, and validated results with residual diagnostics
- Applied PCA to implied/realized volatility covariance to detect multicollinearity via eigenvalue spectrum and reduced features to PC1
- Built a VAR(1) to test Granger causality, and designed a systematic strategy that performed during volatility spikes with backtesting

EXTRACURRICULAR ACTIVITIES

McGill International Portfolio Challenge 2024 — *Sep 2024 – Dec 2024*
- Structured a pension mandate with a liquidity program in T-bills, money funds, and short-duration ETFs and a growth sleeve across equities, fixed income, and alternatives
- Built a mean-variance optimizer in Python with geographic and asset-class constraints to construct the tangency portfolio, achieving a Sharpe ratio of 0.73

PERSONAL

- **Technical Skills:** Proficient in Python (pandas, NumPy, SciPy, scikit-learn), Excel, VBA, R, SQL, Stata, Power BI, Capital IQ, FactSet, Bloomberg Terminal
- **Languages:** English, Mandarin (fluent)
- **Interests:** Pop music performance, Strength training, Traditional bracelet collection