Miranda(Xi) Shang

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EDUCATION

The University of Chicago — **Chicago, IL**
Master of Science in Financial Mathematics — **Expected December 2024**
- Courses: Option Pricing, Stochastic Calculus, Quantitative Trading Strategies, Numerical Methods, Python, C++

University of Waterloo — **Waterloo, ON, Canada**
Bachelor of Mathematics — **September 2015 – May 2020**
- Major: Mathematics/Financial Analysis and Risk Management, With Distinction, Honors, Co-op

SKILLS

Computing: Python, C++, R, Excel VBA, SQL, MATLAB and SAS
Knowledge: Quantitative Analytics, Trading and Financing, Stochastic Modeling, Machine Learning, Statistical Modeling, Time Series and Capital Market Products
Certifications: CFA Level III candidate, FRM certificate

EXPERIENCE

Barclays — **Wilmington, DE**
Quantitative Analytics Summer Associate, QA Financial Modelling — **Jun 2024 – Aug 2024**
- Conducted comprehensive research and developed a statistical model to forecast back-of-back payment rate to credit card portfolios, applying regression analysis alongside advanced machine learning techniques in the model to significantly improve the precision of multiple deal engine inputs and the accuracy of portfolio pricing.
- Actively enhanced the Deal Engine Model by optimizing input parameters through advanced statistical modelling techniques and big data analysis, resulting in more streamlined processes and improved decision-making efficiency.

CloudQuant — **Chicago, IL**
Quantitative Research Intern, University of Chicago Project Lab — **Jan 2024 – Mar 2024**
- Conducted research on the informational role of option trading in predicting stock returns, analyzing the impact of option-induced stock order imbalances on future stock price movements.
- Drove a project to develop a methodology for effectively separating institutional trades, utilizing implied volatility and cluster size for filtration, and performing thorough analysis to validate feasibility.

TD Securities — **Toronto, ON, Canada**
Senior Risk Analyst, Market Risk & Model Development — **Aug 2020 – May 2023**
- Led projects including Interest Rate Framework Model updates, Totem SABRed Volatility Model updates, etc.
- Calculated and monitored risk for Structured Products desk, investigating and commenting on large DoD movements; successfully collaborated with trading and model development team on model updates by using Python
- Perform Pricing Verification for Structured Products desk; effectively communicated the results to all stakeholders
- Received 2022 League of Excellence Award (for top performer in TD Bank Group)

CPP Investments — **Toronto, ON, Canada**
Senior Intern Analyst, Financing, Collateral & Trading — **Sep 2019 – Dec 2019**
- Automated matching and locating process of SBL trading and worked with trader to assist in the trade booking process; greatly improved the efficiency using Python and Bloomberg
- Facilitated swap trading process; successfully developed new features for the swap rebalancing model

RESEARCH

The University of Chicago — **Chicago, IL**
Quantitative Trading Strategy Research Project — **Jan 2024 – Mar 2024**
- Conducted a project to explore the BAB (Betting-Against-Beta) factor quantitative trading strategy, enhancing performance by 50% through Stochastic Dominance-based asset filtering and portfolio optimization.
- Performed comprehensive analysis of the trading strategy, confirming its validity and feasibility in real markets through methodologies including backtesting, stress testing, time series analysis, etc.