**Guorong Song**

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## Education

**The University of Chicago** — **Chicago, IL, U.S.**
**Master of Science in Financial Mathematics** — Expected Dec. 2024

**The University of Toronto (High Distinction)** — **Toronto, ON, Canada**
**Bachelor of Commerce,** ***Finance and Economic Specialist*** — Sep. 2019- June. 2023

## Work Experience

*Associate,Investment Analyst Intern,* **Nour Private Wealth, Toronto, Canada** — Jun. 2024 - Aug. 2024

- Developed and implemented advanced market risk models, including Value-at-Risk (VaR), Expected Shortfall (ES) and stress testing frameworks for a multi-asset portfolio.
- Utilized machine learning algorithms and statistical techniques in SQL and Python to improve the accuracy and predictive power of risk models.
- Designed and automated risk reporting tools using Python and data visualization software such as Tableau and PowerBI, enhancing the efficiency and transparency of risk assessments.

*Quantitative Analyst Intern,* **China Securities, Beijing, China** — Jun. 2022 - Aug. 2022

- Forecasted daily stock returns for over 100 stocks based on past 10 years of Chinese stocks' data by constructing multivariable regression models (Lasso, GLM and Random Forest) in Python.
- Optimized portfolio asset allocation with tangency portfolio weights based on a regularized covariance matrix. Wrote a backtesting framework in Python with a 1.2 Sharpe ratio.
- Conducted portfolio risk analysis using Monte Carlo and Historical-Simulation methods to calculate risk measures including VaR and CVaR.

*Equity Analyst Intern,* **Sino Life Asset Management Company, Shenzhen, China** — May. 2021 - Jul. 2021

- Developed detailed financial models, including DCF, comparable company analysis, and precedent transactions, to valuate target companies in healthcare and consumer staples industry.
- Authored comprehensive research reports and white papers on stock analysis, market trends, regulatory changes and emerging technologies in the target industries.
- Utilized advanced data analysis techniques in SQL and Python to identify key drivers and trends within the industry, providing valuable insights for investment strategies.
- Engaged with institutional investors and clients to present research findings, investment theses, and market outlooks.

## Research Experience

*Quantitative Researcher,* **Bank of America – Project Lab, Chicago, U.S.** — Jan. 2024 - Mar. 2024

- Fine-tuned the ChatGPT chatbot for interpreting and responding to financial reports and regulatory metrics, emphasizing Basel III by utilizing the OpenAI API key in Python.
- Improved the accuracy of responses by applying different RAG (Retrieval Augmented Generation) frameworks, including LlamaIndex and Langchain, and large language models such as baggage-002.
- Conducted research on prompt engineering and analyzed financial data using the EDGAR SEC-API, processed the dataset with an XBRL-JSON converter.

*High-Frequency Trading Research Assistant***, Toronto, Canada** — Sep. 2022- Apr. 2023
*Advised by Jingcheng Tong, Assistant Prof, University of Toronto*

- Designed and implemented high-frequency trading algorithms using time series analysis including ARIMA, GARCH and autocorrelation models in Python to identify trading opportunities.
- Conducted rigorous statistical analysis of market data in SQL and Python to uncover patterns, predict price movements, and optimize trading strategies.
- Developed robust back-testing frameworks to evaluate the performance of trading strategies, ensuring they meet performance and risk management criteria.

## Skills

Certificate: FRM level 2, SAS Advanced Programming Certificate
Computing: Python, Matlab, Jupyter, SQL, SAS, R, Stata, MSOffice
Knowledge: Machine Learning, Statistical Modeling, Data Analytics, Econometrics, Financial Market