Shengyun (Gordon) Gao

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Financial Engineering, **GPA: 4.2** **Expected December 2022**
Financial Data Science Certificate

New York University, New York, NY
Bachelor of Arts in Mathematics, **Summa Cum Laude, GPA: 3.92** **May 2021**

Selected Coursework: Stochastic Calculus, Machine Learning, Derivatives Securities, Optimization, Investment & Portfolio Management, Big Data Technologies, Optimization Modeling in Finance, Statistics for FE, Monte Carlo Methods

SKILLS

Technical: Python (NumPy, pandas, SciPy, scikit-learn), Java, MATLAB, R, C, SQL

EXPERIENCE

Quantitative Analyst Intern, *Shenwan Hongyuan Securities*, Shanghai, China **June to July 2020**

- Built a Python model to assist development of a high-frequency trading strategy on CSI 500 Index and index futures.
- Cleaned and backtested historical data (5 years) using Python, adjusted signal calculations, refined hedging trading ratios, and improved the process to prevent profit loss. Recommended not to pursue the strategy based on findings.
- Priced exotic options (e.g., barrier) through adjusting model parameters of Monte Carlo Simulation.

Risk Management Intern, *SAIC-GMAC Automotive Finance*, Shanghai, China **July to Aug. 2019**

- Led a project team of 5 interns created a database in Excel using historical fraud rates to refine the auto loan approval model for individual borrowers; and improved approval accuracy by 15%.
- Conducted due diligence on potential local loan service partners to support expansion strategy into regional cities.
- Anti-fraud program: Reported calls with elevated fraud risk factors such as repayment and overdue rates. Created fraud and loan reports for monthly department meeting.

PROJECTS

Predicting Positive Cases of Covid-19 (team of 2), *Cornell University*, Ithaca, NY **Nov. to Dec. 2021**

- Accomplished a machine learning project in Python focusing on minimizing prediction error of Covid positive cases.
- Cleaned data through imputation and identifying anomalies. Used PCA for feature transformation.
- Fine-tuned hyperparameters and applied machine learning models using scikit-learn to minimize mean-squared error.

An Option Pricing Routine (team of 3), *New York University*, New York, NY **Nov. to Dec. 2020**

- Wrote a pricing routine of a contract on the STOXX50E Index spot price and the USD LIBOR rate in Python.
- Implemented Geometric Brownian Motion to model future movement of the STOXX50E Index, and used the Hull-White One-Factor Model to simulate short rates and calculate related LIBOR rates.

The Production Spreads Strategy in China (team of 5), *Columbia University*, New York, NY **July to Aug. 2020**

- Took a course on hedge fund strategies taught by Professor Eric Yeh from Columbia University.
- Led a project team of 5 focusing on implementing production spreads strategy in China to maximize returns.
- Cleaned data of four groups of commodity futures, implemented mean-variance analysis for asset weighting, backtested the strategy using Python, and refined the strategy to ensure returns under extreme market conditions such as Covid-19.

LEADERSHIP EXPERIENCE

Team Leader in 2020 Mathematical Contest in Modeling (team of 3), *New York University*, New York, NY **Feb. 2020**

- Managed project schedule and contributed to mathematical construction of the model (won Honorable Mention)

ACTIVITIES/INTERESTS

Piano; Saxophone; Badminton; Japanese anime. Conversational level Japanese language.