Haoran (Alexander) Xu

hx252@cornell.edu 113 Valentine Place, Ithaca, NY 14850 cell: +1 (607) 262-9004

EDUCATION

Cornell University, *College of Engineering, Ithaca, NY*
Master of Engineering in Financial Engineering **Aug. 2022 to Dec. 2023**

University of Nottingham, *Nottingham, UK & Ningbo, China*
Bachelor of Science with Honours in Statistics, First Class Honors, GPA: 3.8 **Sep. 2018 to June 2022**
Awards: The Dean's Scholarship (2018-2019) & The Head's Scholarship (2019-2020); The Bank of China Scholarship (2019)

Copenhagen Business School, *Copenhagen, Denmark*
Summer School (Applied Statistical Analysis for Business and Economics) **June to Aug. 2019**

Selected Coursework: Optimization, Time Series Analysis, Statistical Inference, Applied Statistical Modeling, Differential Equations and Fourier Analysis, Stochastic Calculus, Mathematical Finance, Monte Carlo Simulation, Machine Learning

SKILLS & CERTIFICATES

Technical: Python, R, SQL, MATLAB, C++, Excel VBA, LaTeX/Markdown, Bloomberg, DataStream, Microsoft Office
Certificates: FRM Level 1 (Level 2 Candidate); CFA Level 1 Candidate

EXPERIENCE

Wealth Management Intern, *Founder Securities Co., Ltd.,* Wenzhou, China **July to Sep. 2021**

- Analyzed and optimized client portfolios using quantitative multi-factor optimization model in Python, developed customer resources for sales and management. Maintained the channels and follow-up client relationships.
- Conducted portfolio assessments to ensure investment accuracy, scrutinized equity and fixed income securities, and appraised investment objectives and projects. Contributed to the development of internal analysis reports and compiled a comprehensive 18,000-word analysis for investment consulting clients.

Technical Development Intern, *Hangzhou Freely Communication Co., Ltd.,* Hangzhou, China **June to July 2021**

- Created smart city development plans and sustainable investment portfolios, using the Boston matrix model to evaluate the company's market products and make recommendations in 20+ project management reports.
- Produced market data reports covering 150 products on a weekly basis, which included data checks of 1,400 total products and price adjustments of more than 1000 related records.

Finance & Accounting Intern, *China Pacific Insurance Group Co., Ltd.,* Hangzhou, China **Aug. to Sep. 2020**

- Reviewed relevant original vouchers, prepared bookkeeping vouchers, and completed account processing; participated in regular asset inventories in conjunction with the operations department.
- Assisted the finance manager in data validation, as well as inventory reporting and control, strategic planning, and cost deployment strategy development via statistical methods such as regression analysis, and Monte Carlo simulations.

Data Analysis Intern, *UNNC-NFTZ Blockchain Laboratory, Centre for Inclusive Finance*, Ningbo, China **Aug. to Dec. 2019**

- Participated in the research project titled "Research on Intellectual Property and Patent Evaluation to Promote Financing for Small and Medium-sized Enterprises”. Handled modelling, data collection/analysis, and report writing.
- Automated the database for the main SMEs’ financing indicators, established a linear model using R programming and selected the optimal model based on error analysis and data visualization.

PROJECTS

Stability Measure for Minimum Variance Portfolios leveraging Marchenko-Pastur Theory and Eigenvalue Distributions
Cornell University **Feb. to Apr. 2023**

- Applied Marchenko–Pastur threshold to empirical data, separating eigenvalues associated with noise from signal. Optimized over the Marchenko–Pastur process variance parameter by tuning its value to minimize the distance between analytic M-P pdf and empirical KDE. Implemented a rolling monitor for portfolio stability in the high-dimension regime.

Reduction of A General Graph to Have Minimum Number of Edges, *University of Nottingham* **June to Sep. 2021**

- Innovated a compression algorithm that minimized the number of edges without losing information about the original graph. Proved NP-Completeness and designed an algorithm based on formula derivations. Established graph models and developed a Python-based computer simulation to verify effectiveness.

ACTIVITIES & INTERESTS

LEGO building; Diving; Calligraphy; 2020 Oliver Wyman Impact Mainland China Case Competition (Team Leader)