Hanyu (Ellen) Zhang

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Financial Engineering, GPA: N/A   **Expected December 2023**

Cornell University, College of Engineering Ithaca, NY
Bachelor of Science in Operations Research and Information Engineering, **GPA: 4.18**   **May 2022**
Awards: Dean's List all semesters | 2022 Byron W. Saunders Prize winner | Merrill Presidential Scholar nominee

Selected Coursework: Simulation Modeling and Data Analysis, Operations Research Tools for Financial Engineering, Derivatives Securities, Probability and Statistics, Machine Learning, Statistical Data Mining, Stochastic Process, Optimization

SKILLS

Technical: Python, R, SQL, Excel VBA, MATLAB, AMPL
Language: English (bilingual), Mandarin (bilingual), Korean (high intermediate), German (intermediate)

PROFESSIONAL EXPERIENCE

Markets Summer Analyst (Sales and Trading), *Citibank,* Shanghai, China   **June to Aug. 2022**
- Developed an Excel tool to calculate and visualize the CNY implied yield curve based on market data
- Generated trading ideas on USD/CNY forward and swap products and contributed to weekly newsletters on market color
- Investigated the impact of U.S.-China interest rate gap reversal on global investor behavior in the onshore China rates market, specifically in Total Return Swap return and USDCNY Cross-Currency Swap hedging
- Presented research on *Foreign Exchange hedging with Asian Options* to senior management within Citi China Markets

Strategic Consulting Intern, *KPMG Global Strategy Group,* Beijing, China   **June to Aug. 2020**
- Collaborated with a team of 2 senior consultants to help a global pharmaceutical company choose the best Go-To-Market business model for 4 different pre-launch vaccine products in the China market
- Built 20-year revenue and OPEX forecasting models for each vaccine product under 3 different GTM models
- Communicated with the project manager directly and delivered quantitative results to clients via Excel

PROJECTS/RESEARCH

Independent Research on Scale-free Simplicial Complex, *Cornell University*, Ithaca, NY   **July 2021 to Aug. 2022**
- Independently designed the mathematical model and implemented the simulation of scale-free multi-dimensional simplicial complex networks using object-oriented programming in Python
- Led a team of 2 to conduct degree distribution and robustness analysis of the multi-dimensional network using log-log fit, Hill estimator, and homology measures
- Runner-Up in the Applied Sciences category of the 2022 Spring Symposium held by Cornell Undergrad Research Board

Machine Learning Project on COVID-19 Prediction for EU Countries, *Cornell University*, Ithaca, NY   **May 2021**
- Preprocessed data and extracted features with Numpy, Pandas, dummy encoder and standardized scaler in Scikit-learn
- Used grid search to tune and select model among Support Vector Machine, Random Forest, and Gradient Boost
- Predicted the COVID-19 hospitalization for 15 European countries based on date, hospital occupancy, COVID-19 cases within different age groups and achieved an accuracy of 80% in reality

LEADERSHIP EXPERIENCE

Teaching Assistant, *Cornell University*, Ithaca, NY   **Aug. 2021 to Present**
- *Monte Carlo Simulation Modeling and Analysis*: lead a lab section for 40+ students, answering questions on the Python coding exercises; organize weekly grading sessions to discuss grading rubrics and course logistics
- *Engineering Probability & Statistics*: offered personalized tutorials for 20+ students in 2 office hour sections

ACTIVITIES/INTERESTS

Squash, frisbee, coffee tasting, singing, camping