Ximeng (Ashley) Deng

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EDUCATION

The University of Chicago — **Chicago, IL**
Master of Science in Financial Mathematics (GPA: 3.911/4.0) — **Expected December 2024**

- Courses: Numerical Methods, Option Pricing, Probability & Stochastic Processes, Portfolio Theory & Risk Management, Portfolio Credit Risk: Modeling and Estimation, Python, Machine Learning, Data Science Tools

University of Macau — **Macau, China**
Bachelor of Science in Financial Engineering (GPA: 3.91/4.0) — **May 2023**

- Courses: Applied & Advanced Calculus, Linear Algebra, Statistics and Data Analysis, Econometrics, Fixed Income Securities, Derivative Securities, Exotic Options and Structured Products, C++
- Awards: University Scholarships (2019-2023, per year), Dean's List Student (2019-2023, per semester)

SKILLS

Computing: Python, SQL, R, C++, MATLAB, Stata, MS Office
Knowledge: Financial Markets, Machine Learning, Statistical Modeling, Data Analytics, Econometrics
Languages: English, Mandarin (fluent)

WORK EXPERIENCE

The Options Clearing Corporation — **Chicago, IL**
Model Analyst Intern — **June 2024 – September 2024**

- Researched the stability of various GARCH models' calibration: analyzed time series data to attribute breaches in forecasted variances and model parameters to specific causes; explored multiple optimization methods, including BFGS and Dual Annealing, ultimately enhancing calibration stability
- Acquired in-depth knowledge of the STANS Margin Model and Comprehensive Stress Testing framework, contributing to model improvements and carrying out extensive data evaluations
- Developed Python scripts to streamline data acquisition and structuring, boosting overall effectiveness and accuracy

Founder CIFCO Futures — **Beijing, China**
Risk Management Intern — **May 2023 – August 2023**

- Validated pricing models of various derivatives products such as Snowball and European options by applying Monte Carlo Simulation and Black-Scholes model, calculated options' Greeks, and performed hedge backtests in Python
- Automated company's credit risk assessment model in Python, employed NLP to score parameters that previously relied on manual judgment, integrated real-time market and corporate sentiment data to enhance accuracy

Shouzhengyongqi Asset Management — **Guangzhou, China**
Quantitative Analyst Intern — **June 2022 – September 2022**

- Built Factor-Based Alpha Investment Strategy: researched and discovered factors and developed combinations, built OLS regression models, and generated trading signals based on key metrics
- Optimized models based on backtesting results, with the best performance achieving an annualized return of 12.6%

ACADEMIC PROJECTS

Credit Card Fraud Detection — **March 2024 – May 2024**

- Conducted data cleaning and performed descriptive statistics on client feature data for credit card default prediction. Applied various models, including regular and LASSO Logistic Regression, as well as tree-based methods, to identify significant default patterns
- Evaluated models using out-of-sample accuracy, sensitivity, and specificity, concluding that LASSO Logistic Regression performed best with the highest sensitivity of 71.6% and a reasonable accuracy of 64.3%

Stock Price Trends Prediction using Machine Learning — **September 2022 – December 2022**

- Investigated the accuracy of different machine learning algorithms, including SVM, LSTM, and Sentiment Analysis, in predicting stock price trends during the COVID-19 pandemic
- Created predicting model combining LSTM and Sentiment Analysis, obtaining an accuracy of 73.4%

EXTRACURRICULAR

University of Macau — **Macau, China**
Vice President, Toastmasters Club — **September 2020 – May 2023**

- Led the event planning team and organized the annual public welfare speech party, with more than 200 attendees