

Leyao Sun

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EDUCATION

University of Michigan

Ann Arbor, MI

M.S. in Quantitative Finance and Risk Management

09/2023 - 12/2024 (Expected)

Relevant Courses: Financial Math, Regression, Stochastic Process, Derivatives, Computational Finance, Algo Trading

Australian National University

Canberra, Australia

B.S. in Mathematical Finance (Dual Degree)

02/2021 - 12/2022

Beijing University of Technology

Beijing, China

B.S. in Information and Computing Science

09/2018 - 07/2023

Relevant Courses: Quantitative Research, Finance, Macroeconomics, Probability, Statistics, Numerical Analysis

Scholarship Status and Honors: Dean's International Science Excellence Scholarship

SKILLS

Programming: Python (Pandas, Numpy, Sklearn, Matplotlib), SQL, R, MATLAB, Tableau, VBA

Finance: Factor Investment, Portfolio Optimization, Derivatives Pricing, Risk Management, Stock Valuation

Data Science: Data Wrangling, Linear Regression, Machine Learning, Data Visualization, A/B Testing

PROFESSIONAL EXPERIENCE

Beijing UNIS Investment Fund Co.,Ltd

Beijing, China

Quantitative Risk Analyst Intern

07/2024 - 08/2024

- Developed quantitative tools utilizing SQL and Tableau to analyze fund performance, track ESG profile, while ensuring swift identification of risk factors and market conditions.
- Collected historical price and fundamental data for stocks in the US and Chinese A-share market using Bloomberg and SQL. Calculated 70+ financial ratios and momentum factors with a thorough data cleaning.
- Calculated the Factor performance based on the Fama-French model to validate the factor significance in the Chinese A-share market, and analyze the factor correlation for better market risk management.
- Analyzed factor exposure of different industries using linear regression models (Lasso and Ridge). Produced highly-visualized reports to monitor factor sensitivity, and showcase how major events affect factor sensitivity.
- Recalibrated and maintained internal risk models used to compute risk measures like VaR, CVaR, Delta, PV01, to keep the desk's exposures within limits determined by client mandates and regulatory requirements.

China Construction Bank Fintech

Xiamen, China

Machine Learning Engineer Intern

07/2023 - 08/2023

- Maintained internal SQL databases of personal loan application, monthly performance and market data, fulfilled ad-hoc requests for data aggregation, visualization, trend analysis, segment analysis, etc.,.
- Performed comprehensive data cleansing, Exploratory Data Analysis (EDA), and conducted feature selection on factors, such as Delinquency, FICO, Loan Purpose, and DTI ratio, to identify drivers of default activities.
- Employed Python library (Matplotlib and Seaborn) to visualize and analyze results with clarity and precision.
- Constructed a diverse range of machine learning models, such as Logistic Regression, Decision Tree, Random Forest, and XGBoost, utilizing Python Sklearn package and parameters tuning techniques.
- Implemented cross-validation to ensure model robustness and minimize overfitting risk. The final model achieved 82% accuracy in out-of-sample tests, and provided quantitative insight for credit risk management.

Huatai United Securities

Beijing, China

Investment Banking Intern

02/2023 - 06/2023

- Enhanced due diligence for an IPO of a consumer company by incorporating alternative datasets.
- Analyzed competitors' market share and revenue using credit card transactions; constructed metrics like average transaction value, spend per customer, and new customer acquisition to evaluate pricing power

RESEARCH EXPERIENCE

Options Pricing Convergence Analysis Based on Monte Carlo Simulation

10/2023 - 12/2023

- Utilized Monte Carlo simulation to construct random paths of stock price movement and calculate the option pricing in Python. Compared the result with the Black-Scholes Model to validate the estimators' convergence.
- Estimated the delta, gamma, theta, vega of different options to study the risk exposure of different strategies.
- Applied different variance reduction techniques such as Antithetic Variables, Control Variate, Importance Sampling, etc. to understand their impact on prediction accuracy and efficiency in option pricing.