

Zhuoyang Luo

Chicago, IL | zhuoyang@uchicago.edu | 872-664-2434 | www.linkedin.com/in/Beryl-Luo

EDUCATION

The University of Chicago, Physical Science Division Chicago, IL
Master of Science in Financial Mathematics | GPA: 3.90/4.00 Sep 2023 - Dec 2024

- **Coursework:** Stochastic Processes, Option Pricing, Portfolio Theory and Risk Management, Numerical Methods, Big Data

Shanghai University of Finance and Economics (SUFU), School of Economics Shanghai, China
Bachelor of Economics in Quantitative Economics | GPA: 3.73/4.00 (Top 5%), Major GPA: 3.92/4.00 Sep 2019 - Jun 2023

- **Coursework:** Probability Theory and Mathematical Statistics, C++, Advanced Algebra, Game Theory, Python
- **Honors & Awards:** Honorary Graduate of Shanghai City (Top 0.01%; 2023), Tyrone Bank Scholarship (Top 1%; 2020-2021), SUFE 1st People Scholarship (Ranked 1st in major; 2020-2021), SUFE Outstanding Student (2020-2021)

Columbia University in the City of New York, Columbia College New York, NY
Visiting Student | GPA: 3.91/4.0 Sep 2021 - Jun 2022

Coursework: Ordinary Differential Equations, Global Economics, Data Science in Finance, Time Series Analysis

SKILLS

Coding: Python (Pandas, Numpy, Matplotlib, Scipy, Sklearn), SQL, Linux, Hadoop, C++, R, Spark, Latex

Mathematics: Advanced Calculus, Algebra, Statistics, Mathematical Modeling, Stochastic Process, PCA

EXPERIENCE

Arb Trading Group Chicago, IL
Quantitative Research Intern, Quantitative Research Department Jun 2024 - Now

- Developed comprehensive back-testing infrastructure in Python using OOP, enabling robust tracking of daily trade records, P&L, and the calculation of key performance metrics such as drawdowns, upside/downside Beta, and idiosyncratic volatility
- Designed a Directional High-Minus-Low trading strategy with over 50 stocks using Probit-model-based probability scores as ranking index, incorporating multiple technical and momentum factors. Achieved a 65% win rate and a Sharpe ratio of 2.1
- Created a random forest model to enhance trading signals of existing systems using historical data. Incorporated factors such as VIX, SPX, and SPGSCI index changes, achieving a 37% reduction in yearly drawdown and a 25% improvement in return

Huatai Securities Co., LTD Shanghai, China
Quantitative Research Intern, Quantitative Investment Department Sep 2022 - Jan 2023

- Established a SMA strategic trading model by examining market trend fluctuations to capture momentum in the Chinese A-share market and performed 8-years of backtests with the index of CSI 300 (win rate of 63% and maximum drawdown of 12.6%)
- Implemented pair-trading model on stocks with best cointegration test performance and correlation index in the Chinese liquor industry; designed trading strategy based on z-score computed from the pairs' spread (unleveraged annual return 32%)

China Securities Co., LTD Shenzhen, China
Quantitative Research Intern, Derivatives Trading Department Jun 2022 - Sep 2022

- Constructed the technical factors to forecast daily futures returns using LASSO; reviewed models using K-fold cross-validation with different market states (average RMSE 0.1) along with the prices of 15 key commodity futures from 2010 to 2022
- Implemented a Binomial Tree model enhanced by Gradient Descent for option pricing on targeted commodities; Identified abnormal option values by comparing theoretical and market prices; documented findings using Python

Ping An Securities LTD Shenzhen, China
Equity Research Intern Jun 2020 - Sep 2020

- Conducted directional retrieval of text data on Wind database based on similarity matrix calculated from text frequency and keywords; summarized critical information as text reports (C++)
- Co-authored an in-depth research report on China's leading computer enterprises' financial status, history, main business distribution and implemented a DCF model(Excel) to predict the companies' core financial indicators including P/E and P/B

RESEARCH

Research and Application of Natural Language Processing in Finance Shanghai, China
Advisor: Tianshuo Shi, Ph.D. Student in Management, Harvard University Jan 2021 - Mar 2021

- Developed a quantitative comparison model using partial center correlation coefficients and an SVR algorithm on US market data (2015-2021) in Python. Created a multivariate linear stock return prediction model using predictors having over 70% business correlation and established backtest on portfolios based on predicted returns, achieving a Sharpe ratio of 1.7