

YUECHI (TRINITY) CHEN

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EDUCATION

Nanyang Technological University, Singapore

Jul. 2024 - Jun. 2025

Master of Science in Financial Engineering, Nanyang Business School

(Expected)

Awarded Master of Science in Computational Finance, Carnegie Mellon University

- Coursework: Stochastic Modelling; Stochastic Calculus; Object Oriented Programming; AI Techniques in Finance

Wuhan University, China

Sep. 2020 - Jun. 2024

Bachelor of Mathematical Finance (Double degree: Finance & Mathematics)

- GPA & Honors: 3.78/4.0; Wuhan University Scholarship*3, Hongyi Honor College Excellent Academic Student Scholarship, Wuhan University Freshman Scholarship, Hongyi Honor College Outstanding Student
- Coursework: Stochastic Calculus; Stochastic Process; Mathematical Statistics; Probability; Ordinary/Partial Differential Equations; Linear Algebra; Options, Futures, and Other Derivatives; Asset Pricing; Econometrics; Machine Learning

RESEARCH EXPERIENCE

Leveraging Commodity Volatility for Stock Market Forecasting: An Elastic Net and Long Short-Term Memory Network Approach

Working paper submitted to *International Review of Financial Analysis*, first author

2022 - 2023

- Incorporated 24 commodity futures' daily return data from 6 industries into benchmark Autoregressive model. Employing shrinkage method (Elastic Net) and deep learning model (LSTM) for index markets to improve the forecast performance.
- Incorporating commodity volatility information significantly enhances the predictive ability of traditional AR models by about 2% to 20%. Improvements in predictive performances exhibit asymmetry in high and low volatility periods.

PROFESSIONAL EXPERIENCE

Zhanlin Securities Limited

May. 2024 - Jul. 2024

Intern Quant Researcher at Option Trading Department

Hong Kong

- Conducted stress testing on positions by path simulation through historical prices within the rolling window. Calculated and analyzed scenarios with the extreme values and distribution of premiums, PNL, etc. Observed the hedging effect by adjusting the notional principle and strike price of traded option under different situations.
- Utilised the Heston model to construct the CSI 1000 option implied volatility surface and optimize the model parameters.
- Analyzed daily trading data on positions, customer behaviors, peer quotes, etc. Quoted, ordered, closed positions according to customer instructions and review intraday transactions during and after trading hours.
- Factor mining and backtesting. Research on stock classification strategies.

Blue Stone Capital Management Co., Ltd.

Sep. 2023 - Feb. 2024

Intern Macro Commodities Quant Researcher

Shanghai, China

- Developed an alarming interactive interface for options, achieving functions of data update, data analysis, sending alarms, interface display automatically. Utilized C# and Python to connect to WindAPI to construct front-end and back-end.
- Investigated mispricing in options utilizing BSM model, binomial tree model, and Monte-Carlo simulation, etc, and calculate theoretical prices, probability distributions. Provided statistical support for derivatives trading strategy research.
- Conducted research on synthetic option strategies, volatility smile modeling, option pricing. Read relevant literature.

Galaxy Derivatives Capital Management Co., Ltd.

Jun. 2023 - Sep. 2023

Intern Quant Researcher at Market Making Department

Shanghai, China

- Developed a mean-reversion trading strategy for inter-month spreads under multiple opening and closing constraints. Established trend signals based on a surge or plunge in the current futures price. Achieved stable positive absolute Alpha.
- Constructed and visualized real-time trading indicators in Grafana using the DolphinDB database and Python API. Calculated realized volatility and historical/intraday put-call ratios and corresponding quantiles based on streaming data.

ACADEMIC PROJECTS & AWARDS

Worldquant Brain Challenge Competition: Gold Level, Consultant in Singapore

Jul. 2024

MIT Winter Camp: Machine Learning in Business Analytics

Jan. 2022 - Feb. 2022

- Built a credit model to predict mortgage default risk based on logistic regression, and applied LASSO for feature selection, achieving an 88.31% classification accuracy. Solved the profit maximization problem according to the Type-I, II error.

Mathematical Contest in Modelling: Successful Participant

Feb. 2022

- Constructed a trading strategy for Bitcoin and Gold based on a modified moving average method, achieving 2580% annual return. Determined the trading time based on the buy and sell signals determined by MA, MACD, DMA, TRIX curves.

SKILLS & INTERESTS

Computer	Python, R, SQL, Matlab, L ^A T _E X, Microsoft Office
Languages	Chinese (native), English (fluent)
Interests	Guitar, Hiking, Poker