

HUYI CHEN

(511) 998-1181 // huyi.chen@nyu.edu // [linkedin.com/in/huyi-chen/](https://www.linkedin.com/in/huyi-chen/)

EDUCATION

- Expected 12/23 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Expected Coursework:** object-oriented programming (Java), algorithmic trading, Black–Scholes model, VaR, covariance matrix estimation, Monte Carlo simulation, data-driven models
- 09/16 - 06/20 **WUHAN UNIVERSITY** Wuhan, China
B.S. in Mathematical Finance and B.S in Mathematics
- **Coursework:** linear algebra, probability theory, statistics, real analysis, optimization, stochastic process, random forest, neural networks, differential equations, numerical analysis, derivatives pricing, volatility smile, regression, C++ programming, data structures
 - **Honors/Awards:** national scholarship (top 5%), first prize of the 10th national college student mathematics competition
 - **Thesis:** The expected utility maximization problem with general asset dynamics

EXPERIENCE

- 10/19 - 01/20 **ZMATE QUANTITATIVE TECHNOLOGY LTD** Shenzhen, China
Quantitative Research Intern
- Developed 6 trading strategies for cryptocurrency and stocks with Python
 - Used empirical stock data to update strategy implementation, database communication, and log system for backtesting; wrote research reports
 - Improved performance of stock selection program based on CAPM by introducing mixed integer programming, increasing Sharpe ratio by 6% and reducing max drawdown by 5%
 - Prepared technical aspects of presentation to security company clients to better demonstrate technical implementation
 - Communicated final results to security company clients; succeeded in selling them stock selection program

PROJECTS

- 07/21 - 08/21 **UBS SECURITIES CO. LIMITED** Remote
Pair Trading Strategies Based on Cointegration Arbitrage (Python)
- Conducted data cleaning for government bond futures using Python; applied co-integration tests
 - Wrote fully functional backtesting program with Python to implement statistical arbitrage strategies of Treasury bond futures based on residual deviation signal
 - Used moving average and Kalman filter to better fit time-varying strategy parameters, which significantly improved strategy performance in most cases
 - Optimized program by restricting data structure to pure numpy array and using vectorization heavily; improved average running speed of backtesting program 22-fold
- 09/21 - 02/22 **CALIFORNIA INSTITUTE OF TECHNOLOGY** Remote
Performance Comparison of BS and Heston Models in Options Pricing (Python, C++)
- Collected Apple Inc. stock and options data with Python; calibrated market parameters and priced options with Black-Scholes and Heston models
 - Fitted parameters by minimizing the prediction errors of option prices with hybrid schemes
 - Compared performance of Black-Scholes and Heston models by calculating prediction error on test set and conducting Delta hedging for specific portfolios

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, C++, MATLAB, Java

Languages: English (fluent), Mandarin (native)