

CHEN ZHAO

(412) 888-9306 // chen.zhao@nyu.edu // [linkedin.com/in/chen-zhao-cz](https://www.linkedin.com/in/chen-zhao-cz)

EDUCATION

- Expected 12/23 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Expected Coursework:** stochastic calculus, object-oriented programming in Java, supervised and unsupervised machine learning, portfolio optimization, Fama-French, time series analysis
- 09/18 - 04/22 **UNIVERSITY OF PITTSBURGH** Pittsburgh, PA
Completed first two years at Sichuan University (China)
B.S. in Material Science and Engineering, Minor in Economics
- **Coursework:** stochastic process, probability theory, linear algebra, MLE, machine learning, partial differential equation, corporate finance, game theory, Hamilton's equations, thermodynamic modeling and numerical simulation, time-independent Schrödinger equation
 - **Honors/Awards:** Term Honors, all semesters Dean's Honor, all semesters

EXPERIENCE

- 06/21 - 08/21 **JINRUI FUTURES** Shanghai, China
(Traditional commodity hedging and arbitrage research firm)
Market Research Intern
- Interpreted and qualitatively analyzed copper futures in China under carbon-neutral policies
 - Collaborated in writing report on using iron ore and coke futures in rebar industry, hedging against adverse price movements
 - Explained logic of cross-hedging strategy in presentation to department
- 02/21 - 03/21 **CHINA INTERNATIONAL CAPITAL CORPORATION (CICC)** Shanghai, China
Quantitative Analyst Intern
- Managed large-scale datasets of Shanghai Stock Exchange 50 ETF Option in Python
 - Calculated synthetic forward prices and implied volatility of options using different market discount factors in Python
 - Calculated implicit market discount factor of options by linear regression in Python
 - Built backtesting system and tracked daily profit and loss to verify accuracy of new implicit market discount factor and reliability of strategies in MATLAB

PROJECTS

- 09/22 - 10/22 **NEW YORK UNIVERSITY** New York, NY
Stock Trading Platform Design (Python)
- Implemented functions that users can bid buy/sell prices for a stock and view the real time price
 - Designed match system by constructing new data structure according to price/time
- 03/21 - 05/22 **UNIVERSITY OF PITTSBURGH** Pittsburgh, PA
Math Research on Low-Dimensional Lotka-Volterra Models of Economic Growth (R, MATLAB)
- Contributed to developing new mathematical model to interpret different countries' economic growth trends; discovered nonlinear relationships among several variables; created new features
 - Developed algorithms that combined linear regression, sparse identification, and particle swarm optimization to calculate model's parameters; checked parameters' convergence
 - Analyzed model's Hamiltonian system and numerically simulated it
 - Visualized evolution equations and calculated the attractors of dynamic system
- 07/22 - 08/22 **Kaggle Competition: American Express – Default Prediction (Python)**
- Managed large-scale dataset with time series and filled in missing data
 - Implemented several methods (e.g., QDA, PCA, SVM) to predict default probability
 - Designed parallel computing algorithms to speed-up calculation

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, JAVA, MATLAB, R

Languages: English (fluent); Mandarin (native)