# ZEHAO YANG

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## EDUCATION

| Expected 12/24 | **NEW YORK UNIVERSITY** | New York, NY |
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**The Courant Institute of Mathematical Sciences**
**M.S. in Mathematics in Finance**
- *Expected Coursework:* penalized regression, decision tree, Fama-French models, Feynman-Kac formula, Black-Scholes, Hull-White models, Ornstein-Uhlenbeck, Monte Carlo method

| 09/18 - 09/22 | **WASEDA UNIVERSITY** | Tokyo, Japan |
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**School of Political Science and Economics**
**B.A. in Economics**
- *Coursework:* linear algebra, calculus, real analysis, entrepreneurial finance, statistical analysis
- *Honors:* Monbukagakusho Honors Scholarship for privately financed international students

| 08/21 - 05/22 | **PURDUE UNIVERSITY** | West Lafayette, IN |
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**Study Abroad**
- *Coursework:* OOP (Java), ODE & PDE, Markov chain, probability, time series models
- *Honors:* Dean's List and Semester Honors both semesters

## EXPERIENCE

| 02/23 - 03/23 | **SHENZHEN CAPITAL GROUP CO. LTD.** | |
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| | (2nd largest venture capital company in China, with $65B AUM) | Shenzhen, China |

**Data Scientist Intern (Python, SQL)**
- Developed machine learning model using **logistic regression** with **PCA** to forecast corporate financial fraud in publicly listed Chinese companies
- Applied **lasso regression** for industry-specific feature optimization in predictive modeling, identifying key factors influencing corporate financial fraud
- Adjusted **penalty coefficient C**, based on industry characteristics; employed F1-score to assess model's performance; achieved 0.92

| 11/22 - 01/23 | **BOSERA ASSET MANAGEMENT CO. LTD.** | |
|---|---|---|
| | (3rd largest asset management company in China, with more than $200B AUM) | Shenzhen, China |

**Quantitative Research Intern (Python, R, MATLAB)**
- Developed average true range (ATR) trading strategies for Chinese stock index futures; proved ineffectiveness of ATR strategy
- Backtested ATR strategy across various asset classes, achieving annual returns of 28.12% to 37.44% for 50 types of commodity futures (e.g., steel, soybean, and gasoline)
- Identified limitations of ATR strategy by confirming low annual returns, of 9.01% to 11.08%, when applied to specific stock index futures (e.g., CSI300)

## PROJECT

| 09/23 - 12/23 | **NEW YORK UNIVERSITY** | New York, NY |
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**Hedge Fund Performance Forecasting Analysis**
- Applied **penalized regression** to hedge fund returns on Fama-French Factor 5 model
- Implemented **elastic net regularization** to enhance OLS performance; calculated its MSEs

**Dynamic Options Hedging Strategy Based on BlackScholes Model**
- Created dynamic options hedging strategy based on Black-Scholes with S&P 500 data
- Analyzed **hedging errors** for options portfolios to optimize hedging strategies; developed statistical visualizations, including histograms, to depict hedging error distribution

## COMPUTATIONAL SKILLS / OTHER

*Programming Languages:* C++ (STL, boost), Java, Python (pandas, numpy, matplotlib, scikit-learn, PyTorch), R, SQL
*Languages:* English (fluent), Japanese (fluent), Mandarin (native), Cantonese (conversational)
*QuantNet Certifications:* C++ Programming for Financial Engineering; An Intuition-Based Options Primer for Financial Engineering (with Distinction)
*Activities:* Math Finance Recitation Leader at NYU Courant