

CAIYI (ANNA) ZHANG

anna.zhang@nyu.edu ■ [linkedin.com/caiyi.anna.zhang](https://www.linkedin.com/caiyi.anna.zhang)

EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

MS in Mathematics in Finance (expected – Dec. 2020)

- **Coursework:** Stochastic calculus, Monte Carlo simulation, option pricing, OOP in Java with applications in trading and hedging, interest-based derivatives, one-factor interest rate models
- **Future Coursework:** Algorithmic trading, time series analysis, market microstructure, nonlinear problems in finance, fixed income derivatives, interest rate & FX models

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Los Angeles, CA

BS in Financial Actuarial Mathematics (2017 – 2019)

- **Coursework:** Linear algebra, probability theory, statistics, game theory, bond math, accounting, microeconomics, intro to C++, numerical analysis, optimization, machine learning, real analysis
- **Awards:** Economics Board Research Fellows Award \$5,000 Fellowship, Summa Cum Laude

CASCADIA COLLEGE

Bothell, WA

Associate in Applied Mathematics (2015 – 2017)

EXPERIENCE

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Los Angeles, CA

Undergraduate Economics Research Fellow (Jan. 2019 – Jun. 2019)

- Researched effects of increasing tick size on trading volume for thinly traded small-cap stocks
- Identified 11 predictors for trading volume by combining votes from 3 models with 69% R^2
- Presented research findings to Economics Board members and school alumni in simple language

GUOTAI JUNAN SECURITIES

Beijing, China

Investment Banking Summer Analyst (Aug. 2018 – Sept. 2018)

- Performed financial and legal due diligence in a 4-person deal team on \$4.3B convertible bonds offering for a high net-worth engineering and construction institution in China
- Researched super-hard material industry trends to draft report for senior bankers' engagement

VESTFAR GLOBAL REALTY GROUP LLC

Los Angeles, CA

Machine Learning Engineer Intern (Jul. 2018 – Sept. 2018)

- Analyzed large data with 80+ variables using visualizations and feature engineering techniques
- Proposed and explained ensembling to team to improve predictive power for real estate property
- Implemented weighted average ensemble of Lasso and gradient boosting to reduce error by 6%

PROJECTS

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Los Angeles, CA

Calibration of Financial Time Series (Python)

- Constructed implied volatility surface to price European options with 16 % prediction error, writing functions to process options with same maturity and finishing 3 weeks ahead of schedule
- Studied asset returns modeled by pure jump processes and option valuation via Fourier transform

Portfolio Selection and Model Averaging (R)

- Engineered stacked regressions with gradient descent to assign weights for 5 base models
- Programmed risk-parity to stacking under “long” constraint, further reducing error rates by 3%

Markowitz Portfolio Optimization (Excel)

- Visualized efficient frontier for \$5M portfolio of two index funds tracking bonds and stocks, optimizing weights with Excel Solver to find an optimal risky portfolio

COMPUTER SKILLS/OTHER

Programming Languages & Other Software: Java, C++, Python, R, C#, Matlab

Languages: Mandarin (native), English (fluent)

Certificates: SOA Exams Probability/1, Financial Math/2 Passed; Bloomberg Market Concepts