

## EDUCATION

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**NEW YORK UNIVERSITY** New York, NY

**The Courant Institute of Mathematical Sciences**

**MS in Mathematics in Finance** (expected – January 2020)

- **Risk management:** VaR, backtesting, stress testing, credit risk
- **Financial modeling:** Monte Carlo Simulation, interest rate models (Vasicek, CIR, Hull and White), factor models
- **Derivatives:** Black-Scholes & Greeks, hedging, exotic options (Digital options, Asian options, Barrier options, Lookback options, Spread options, Basket options, Worst-Of and Best-Of options)
- **Others:** OOP in Java, mean-variance optimization, Stochastics Calculus (Brownian motion, martingales, diffusion process), market microstructure (tick test, Kyle model, quote test), Machine Learning (K nearest neighbors, decision tree, linear regression, tree-based regression)

**UNIVERSITY OF ROCHESTER** Rochester, NY

**BS in Mathematics and BA in Statistics** (2014 - 2018)

- **Coursework:** Calculus, probability and statistics, linear algebra, linear regression
- **Awards:** Dean's List, Phi Beta Kappa

## EXPERIENCE and PROJECTS

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**CHINA SECURITIES CO., Ltd** Beijing, China

**Quantitative Researcher Intern** (June 2019 – August 2019)

- Developed market timing strategy for sector indexes in Chinese stock market. Created linear regression model to calculate divergence within each industry and the change in sector index for that industry for market timing. A 10-year backtest produced a 40% annual return in electronics industry as highest annual returns among all 26 industries with 25.37% maximum drawdown.
- Developed market timing strategy for A share index in Chinese stock market. Used the information in the price and volume of the stock market to predict the turning point for the market. A 10-year backtest, produced a 13.67% annual return with 26.73% maximum drawdown.

**New York University** New York, NY

**Monte Carlo Option Pricing Approach in Java**

- Built an extendable Java-based Monte Carlo option pricing framework
- Priced vanilla European and Asian options by Monte Carlo
- Applied ActiveMQ system and GPU programming to achieve faster convergence resulting in a speedup of 3

**K-Means Clustering in Java**

- Implemented Lloyd's algorithm for multi-dimensional points clustering
- Measured the efficiency with within-cluster distance variance and compared efficiencies with several metrics.

**Mean Variance Portfolio Optimization in R**

- Performed mean-variance optimization for a portfolio with six different types of funds
- Calculated the maximum Sharpe ratio portfolio and the weight allocation for a given set of subjective views

**Comparison of VaR Calculation Approaches for Currencies and Commodities**

- Implemented the covariance and historical simulation techniques to calculate one-day 99% VaR for major currencies and commodities over 2005-2012 in Excel
- Applied the Gaussian copula to the historical data and then implemented Monte Carlo simulations for VaR calculations; compared these three VaR methodologies

**Model Validation of Heston Model**

- Investigate the validity of Heston model for pricing European options, and compares the results with the actual market data.

## COMPUTER SKILLS/OTHER

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**Programming Languages & Computer tools:** Java, R, Python, Excel

**Certificate:** Actuarial Studies Certificate, Passed CFA Level I Exam

**Languages:** Mandarin (native), English (fluent)