# Jinyuan Zhang, Ph.D. Candidate

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## SUMMARY

- Research field: Empirical and Theoretical Asset Pricing, Machine (Deep) Learning in Finance.
- Proficient in Python. Intermediate in R, Matlab and C++.
- Strong quantitative research skills. Proficient in Python data analysis packages such as Pandas, NumPy, SciPy and PyTorch. Research projects involving various financial datasets such as CRSP, OptionMetrics, and TAQ.
- Solid academic background knowledge in finance literatures, especially in Empirical Asset Pricing and Market Microstructure.
- Solid mathematical skills such as Statistics, Econometrics and Stochastic Processes.
- Experience with parallel computing on computer clusters.

## EDUCATION

**Boston University, MA**
Ph.D. in Mathematical Finance, Questrom School of Business **Expected 2026**

**The University of Chicago, IL**
M.S. in Financial Mathematics, Department of Mathematics **December 2020**

**Peking University, Beijing, China**
B.A. in Financial Economics, Guanghua School of Management **June 2018**

## RESEARCH PROJECTS

***The Implied Equity Premium on Individual Stocks***
Based on the assumption of no risk-free arbitrage opportunities and no trading frictions, I can estimate the stochastic discount factors (SDF) in the stock market within the framework of log-utility. This approach is free of model bias, based on risk-neutral moments implied from option prices, and realized variance estimated from intra-day trading data. Using this SDF, I can estimate the implied equity premium of each individual stock.

***Pervasive Predictability in the Equity Market via Neural Networks and Option Prices***
Intuitively, underlying assets should have implications for the derivatives' price changes. Surprisingly, I find the reverse is also true. Using option data and a various design of neural networks, I show that option data can predict the underlying stock returns in the future. My approach achieves an out-of-sample R-square that is higher than most of previous literatures.

## PROFESSIONAL EXPERIENCE

**Booth School of Business, the University of Chicago, IL, Chicago**
*Research Professionals* **December 2020 – June 2021**

- Studied the effect of time-varying market betas on global stock returns via a conditional risk factor approach.
- Simulated a theoretical asset pricing model and ran regressions to study the model-implied equity term structure in MATLAB.
- Replicated the SVIX index and the LVIX index introduced by Martin (2019) in Python using data from Option Metrics.

**China Finance Quant Technical Investment Ltd.**
*Quantitative Analyst Assistant* **June 2018 – June 2019**

- Wrote code to pick stocks based on multifactor models and constructed investment portfolios.
- Evaluated stock market factors, such as value and momentum, and developed trading factors through Python.
- Analyzed market microstructure and designed processes to reduce trading costs, such as an operation to complete a large order with several small orders.

## AWARDS & ACTIVITIES

**Professional Affiliations:** American Economic Association (AEA)
**Honors & Awards:** Graduate Fellowship, First Prize in Chinese Physics Olympic Competition.