

# Yuting Gao

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## Skills

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Programming: Python (Numpy, Pandas; OOP)

Mathematics: Stochastic Calculus (Ito's Formula, Girsanov's Theorem, Lévy Process, Optimal Control), Computational Methods (Quadratic Methods, FFT, Finite Difference, Simulation)

## Education

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Boston University, Questrom School of Business

Boston, MA

**M.S. Mathematical Finance & Financial Technology [GPA 4.0]**

January 2022

- Merit award: **Placing FIRST** in the Graduate level of the Pricing Challenge, hosted by the Boston University Math Finance Club, **Dean's Scholarship**
- Coursework: Stochastic Methods of Asset Pricing (**Rank 1/106**), Computational Methods, Fixed Income, Statistics, Programming (R, Python), Machine Learning (Logistic Regression, NLP)

Hunan University, College of Finance and Statistics

Changsha, China

**B.A. Finance (Financial Engineering) [GPA 3.83]**

June 2020

- Merit award: **National Scholarship**, Merit-based Scholarship, Monomial Scholarship, Merit Student, Third Prize in 9<sup>th</sup> Chinese Mathematics Competition
- Coursework: Stochastic Calculus, Mathematical Analysis, Advanced Algebra, Probability Theory, Ordinary Differential Equations, Mathematical Statistics, Dynamic Programming, Corporate Finance

## Projects

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Boston University

Boston, MA

**BU Math Finance Club Pricing Challenge (First Place)**

Jan 2021

- Lead a team using Monte Carlo Simulation to price an equity-linked note (ELN) based on FTSE MIB, Hang Seng China Enterprises and NASDAQ-100 indices.
- Constructed a model to generate simulated index values and calculated and average the value of the ELN across all paths.
- Vectorized the simulation process then created unique indicators allowing program compatibility with an early redemption scenario, resulting in improved efficiency of 4x
- Improved reliability by accounting for time zone differences of the representative indices, resulting in a more realistic pricing model

**Pairs Trading Strategy**

Nov 2020 - Dec 2020

- Lead a team to construct market-neutral pairs trading strategy based on the top 50 market weighted stocks in the S&P500.
- Applied ADF, Engle-Granger, and Johansen's tests to locate stock pairs with a cointegration relationship.
- Employed z-score criterion to identify trading signals and adopted additional conditions for closing position to manage risk.
- Backtested the strategy with rolling window and using various statistics to analyze the strategy, resulting in a portfolio with a higher Sharpe ratio.

## Additional Information

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Languages: Chinese (Native), English (Fluent both in speaking and writing)

Volunteering: Mentored a young student as part of Letter-to-heart program; tutored high school and primary school students in mathematics courses