Nikhil Neelagaru

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Education

Boston University, Questrom School of Business, Boston, MA — Expected Jan 2026
M.S. Mathematical Finance & Financial Technology
- **Fall 2024 Coursework:** Stochastic Calculus, Statistics for Mathematical Finance, Fundamentals of Finance, Programming for Mathematical Finance

Boston College**,** Morrissey College of Arts and Sciences, Boston, MA — Aug 2019 – Aug 2022
B.A. Biology
Honors: Dean's List (Spring 2020), Bowman Scholar
- **Selected Coursework:** Multivariable Calculus, Physics I, Physics II, Introduction to Bioinformatics

State University of New York at Buffalo, College of Arts and Sciences, Buffalo, NY — Aug 2018 – May 2019
Honors: Dean's List (Fall 2018)
- **Selected Coursework:** Intro to Microeconomics, Intro to Macroeconomics

Skills and Credentials

Programming: Python, C++, R, SQL

Experience

Physics Department (Klein Group), Boston University, Boston, MA — Sep 2024 – Present
Graduate Student Researcher (Econophysics, Statistical Physics)
- Conducting research on mathematics of trade, applying statistical mechanics ideas to econometric problems
- Expanding and generalizing an asset exchange model based on the Yard-sale model
- Using a variety of statistical and computational techniques to simulate trade and develop realistic economies

Success Academy Charter Schools, New York, NY — July – Sep 2023
Lead Chess Instructor
- Taught chess to K-4 students at one of the top nationally ranked chess schools in the country, taking advantage of technology in the classroom to create and execute engaging lessons unique to every level
- Communicated complex topics by deconstructing ideas into smaller, easily digestible lessons
- Collaborated with colleagues to improve on existing teaching strategies and tournament preparatory methods

Bioengineering Society of Boston College, Boston, MA — May 2021 – May 2022
Founder & President
- Founded the organization for students with interests in intersecting quantitative fields to discuss research goals, learn from experts, and contribute to the culture of learning and academics
- Spearheaded presentations to regulatory committees, managed a budget, and designed E-Board applications
- Recruited 50+ members to organization in first semester following approval

Projects

Probabilistic Tennis Sports-Betting Model — May 2024 – Present
- Wrote a Python program implementing a recursive probabilistic model designed by MIT's Applied Mathematics Department, to compute theoretical win probabilities for professional tennis matches and find profitable bets
- Utilized Object Oriented Programming to streamline code and create a user-friendly program
- Scaling program upwards to develop functionality for data cleaning and analysis for bet-making decisions

Binomial Options Pricing Model — May – Aug 2024
- Wrote a Python program for a binomial options pricing model to value European and American stock options
- Constructed binomial trees to simulate underlying stock movement and subsequent options prices
- Employed Object Oriented Programming techniques to streamline code and create user-friendly functionality