Schedule 2022-2023

Brandeis University Quant Club

September 20, 2022

1 Introduction

This document outlines the core curriculum of the Brandeis University Quant Club. This club primarily covers basic techniques in quantitative finance (enough to have a solid foundation in learning more individually), programming techniques on large-scale applications, as well as other topics in financial markets and computer science. If you're interested in learning the advanced techniques of quantitative finance, please see The Mathematics of Arbitrage, or the two part series, Stochastic Calculus for Finance I: The Binomial Asset Pricing Model and Stochastic Calculus for Finance II: Continuous-Time Models. These are not required in any capacity to be involved in the club. These textbooks require a very high proficiency in mathematics, and are generally used in financial mathematics graduate programs. Contact the club President, Ephraim Zimmerman (ezimmerman@brandeis) for specific question and comments.

2 Autumn 2022 (Lectures and Education)

Subject to change . . .

1. Introduction (9/6)
2. Black-Scholes (9/13)
3. Inflation and quantitative easing (9/20)
4. NO MEETING (9/27)
5. Programming in JavaScript [1 of 2] (10/4)
6. Understanding equities and options (10/11)
7. Programming in JavaScript [2 of 2] (10/18)
8. Modern portfolio theory (10/25)
9. Automated trading algorithms and neural networks for finance (11/1)
10. Why get a PhD? Presented by Jonne Sälevä, CS/NLP PhD Student at Brandeis (11/8)
11. Leslie Lamport question preparation (11/15)
12. NO MEETING (11/22)
13. Q&A with Leslie Lamport (11/29)
14. Wrap-up, planning for project next semester (12/6)

3 Spring 2023 (Project)

To be involved in the project, you must pass a technical interview. All content on the interview will be covered during the Autumn semester. Weekly or bi-weekly meetings with group leaders. Individual, group work will be assigned depending on topic of interest (design, statistics/mathematics, back-end programming, front-end programming).