ALTON BANUSHI

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Education

Northeastern University Boston, MA

Candidate for B.Sc. in Computer Science and Mathematics *Sep 2021 – May 2025*

Coursework: Object Oriented Design, Algorithms & Data, Foundations of Data Science, Logic & Computation, Database Design, Linear Algebra, Probability & Statistics, Calculus 3, Statistic & Stochastic Processes, Group Theory

GPA: 3.99/4.0

Technical Skills

Languages: Java, TypeScript / JavaScript, Python, C++, C#, Swift, MATLAB, R

Technologies: React, Next.js, MySQL, Spring Boot, Express, tRPC, Prisma, Tailwind, Docker, SwiftUI, numpy, pandas

Work Experience

TD Securities New York City, NY

Software Engineering Intern *June 2024 – August 2024*

- Designed and implemented an improved RESTful API using Spring Boot, resulting in a 40% increase in response efficiency
- Composed a React interface to centralize and automate internal deal management operations, eliminating manual operations and decreasing waiting periods by 4x
- Automated testing of APIs using JUnit and Mockito, increasing code coverage to 90% and reducing manual testing efforts by 70%

UBS Chicago, IL

Quantitative Developer Co-op *December 2022 – August 2023*

- Collaborated with portfolio managers to engineer a custom fixed-income web tool, enabling visualization of 300+ months of data using React and TypeScript
- Designed and implemented a portfolio optimization tool utilizing mixed integer programming, resulting in a positive excess return on average
- Developed and maintained a back-end system to collect and process large-scale fixed-income market data using Python and SQL, reducing manual portfolio analysis by 200%
- Researched 15 different benchmarks to analyze the performance of bond signaling functions over a period of 339 months

Khoury College of Computer Sciences Boston, MA

Teaching Assistant *August 2022 – May 2024*

- Instruct 40+ students in a weekly lab, explore lecture topics on algorithms and data structures more intensively, address student questions one-on-one
- Provide personalized feedback to students on over 30 assignments weekly, analyze and evaluate more than 15,000 lines of code to identify areas for improvement
- Conduct virtual and in-person office hours, guide 8+ students an hour on homework, debug 10,000+ lines of code

Projects

Student Government Member Tracker

- Digitized the member attendance, voting, and messaging of Northeastern's Student Government with a custom web application, simplifying procedures for over 150 senators
- Automated data collection and processing using a React front end and a Python and MySQL back end, shortening common procedure times by over 500%

Image Processing Application

- Designed an image processing application in Java, incorporated 20+ unique image operations
- Employed object-oriented principles to enable extensibility and code cleanliness, facilitating the addition of new operations without modifying code interfaces