

NEEL PATEL

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neelthepatel.com

EDUCATION

Northeastern University

Masters of Science, Computer Science – GPA 4.0

Sept 2022 – December 2026

Boston, MA

- *Relevant Courses:* Machine Learning, Algorithms, Computer Systems, Object Oriented Design, Database Management Systems, Artificial Intelligence, Discrete Structures.
- NEU Competitive Programming, member for the Husky Competitive Programming Club.

SKILLS & TECHNOLOGIES

Languages: GraphQL, React, Java Tomcat, Go, C++, Python

Technologies: Redis, Postgres, Jenkins, MySQL, AWS, Docker

WORK EXPERIENCE

Quickbase

Full Stack Developer Intern

July 2024 – Present

Boston, MA

- Developed the new "Code Page Addons" feature, integrating CI/CD methodologies using Jenkins automation, JFrog Artifactory artifact management, and Docker containerization.
- Implemented custom hooks for in React for state management and leveraged GraphQL APIs for optimized data retrieval.
- Contributed to Agile project management, focusing on the meticulous design and iterative enhancement of user interfaces with a Kanban based team.

IpserLab

Software Engineer Intern

Jan 2024 – Apr 2024

Boston, MA

- Led the backend development of a 'Quiz Response Analytics Engine' in Java using Tomcat, enabling real-time analysis of user answers.
- Implemented efficient Postgres querying and indexing strategies, reducing data retrieval times for large-scale quiz result sets, supporting multiple concurrent users.

Northeastern University

Teaching Assistant - Algorithms and Data Structures

Jan 2023 – Jan 2024

Boston, MA

Khoury College of Computer Science

Research Assistant

May 2023 – Sept 2023

Boston, MA

PROJECT EXPERIENCE

BellCrve (Winner – Yale Hackathon 2024) *Dask, Wolfram, Typescript, Math*

[Github](#) | [Demo](#)

- Won Yale Hackathon overall best hack prize. Built under 19 hours, a distributed Monte carlo options pricing simulation scaler that shows a concept for market makers to adopt and speed up their computational times.
- Used Wolfram Programming language and computational power of digital ocean to spread simulations across multiple virtual machines with Dask.
- Showed live visualization of Brownian Motion in typescript running and error using Black Scholes model.
- Packaged and bundled with Pypi and publicly hosted on DigitalOcean compute.

ChessLab & Valkyrie *Python, Websockets, Math*

[Github](#) | [Demo](#)

- Developed a high-performance Chess Engine named Valkyrie from scratch, utilizing websockets for real-time data exchange between a Next.js frontend and a Python backend
- Built a robust CI/CD pipeline integrating AWS Elastic Container Service, Load Balancers, and Docker, streamlining deployment and scalability for optimal service delivery.
- Enhanced chess engine efficiency through advanced algorithms such as Zobrist Hashing and Quintessence Search, and implemented bitboard representation for chess pieces, significantly boosting processing speeds. Maintained comprehensive development logs and guides on a GitBook-hosted documentation site to support future enhancements and developer onboarding.

AWARDS

Harvard Hackathon 2023 Winner with NexusAPI project. [Link to github.](#)

Yale Hackathon 2024 Winner with Bellcrve Project. [Link to github.](#)