

Alfardil Alam

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EDUCATION

New York University, New York, NY

Sep 2023 – May 2027

B.A Computer Science and Mathematics

Relevant Coursework: *Data Structures, Basic Algorithms, Operating Systems, Software Engineering, Linear Algebra, Calculus III, Analysis*

Awards: *Winner Hack@Brown 2025, BYTE Hacks 2025*

EXPERIENCE

Research Assistant, New York, NY

Nov 2025 – Present

NYU Secure Systems Lab

- Designing the setup command for an open-source supply chain security tool used by Bloomberg to **abstract complex cryptographic key management and policy provisioning** to reduce developer onboarding time by over 90%.
- Prototyping the read access control rules in Go, translating theoretical security models from internal PhD research into a concrete implementation for the distributed system.

Research Assistant, New York, NY

Jan 2025 – Dec 2025

NYU High Speed Research Network

- Devised a **temporal audit logging system** using Next.js and PostgreSQL that tracks state changes (device allocation, MAC addresses), enabling administrators to reconstruct historical system states and detect malicious activity across 300+ user profiles.
- Restored frontend stability by resolving critical routing failures and broken links within the React codebase, significantly reducing onboarding difficulty for new developers and ensuring reliable access to the staging environment.

Software Engineer Intern, New York, NY

May 2025 – Sep 2025

Lexor Strategies

- Architected a **consumer-facing rental marketplace** using React and Redux, integrating Mapbox GL for geospatial radius search and Firebase for real-time roommate matching, directly securing the first 20+ customer conversions.
- Built a **CRM analytics platform featuring ECharts for data visualization**, configuring Netlify CI/CD to handle deployments with a reverse proxy integration and automated scheduled tasks for data synchronization.
- Expanded the digital footprint for Glow Sauna Studio (16k+ followers) by developing a React Native app that integrates Mind-bodyAPI for seamless multi-location bookings, simultaneously securing user data by **patching a high-severity OAuth vulnerability**.

Software Engineer, Bronx, NY

Feb 2023 – Sep 2025

Synergy Prep

- Led a group of 3 to maintain an AI web app written in Flask & React that **generates documents with user-selected topics** to eliminate academic weaknesses as used by 200+ students with over 7000+ messages sent & 800+ documents generated.

PROJECTS

CodeBloom

🌐 codebloom.patinanetwork.org

- Developed a **competitive coding platform** using React & SpringBoot, allowing college students to track & compare LeetCode progress on a real-time leaderboard with the goal of providing motivation to the community.
- Reverse engineered & integrated GraphQL queries from *leetcode.com* to access data programmatically and bypass rate-limiting of existing APIs. Tracked 12,000+ questions with 210+ users and 35+ stars on Github.
- Optimized custom SQL queries to create RESTful API endpoints, custom objects, and database models to store and retrieve data efficiently through Postgres. Set up cron jobs to regularly fetch data.

Thestral

🌐 github.com/alfardil/thestral

- Built a developer tool with FastAPI, ingesting any GitHub repository to **generate system design diagrams** and provide granular context on code usage, accelerating contributions to the open source community.
- Engineered a deep learning asynchronous **RAG ingestion pipeline** using LangChain and pgvector, implementing concurrent batching to reduce indexing latency by at least 60% while managing 2m+ token workloads.

SKILLS

- **Languages:** Java, Python, TypeScript, JavaScript, Golang, C, C++, Bash
- **Development:** React, Next.js, Node.js, Vite, Knex, React Native, Vercel, Express.js, Flask, Spring Boot, Github Actions, JSON, gRPC, CI/CD
- **Database:** SQL, PostgreSQL, SQLite, Redis, Firebase, MongoDB, Neon, DrizzleORM, Prisma, Flyway, HikariCP, DBeaver, TablePlus
- **Others:** Git, Docker, Kubernetes, AWS, Azure, DigitalOcean, OpenAI, Langchain, Stripe, Postman, VSCode, Maven, Google Cloud

LEADERSHIP

Captain, Men's Ultimate Frisbee

Sep 2021 – Present

- Managed \$25k in funding while coordinating travel, accommodations, and game schedules for 20+ athletes across multiple out-of-state tournaments; boosted team visibility through social media content attracting 80k+ views & 500+ followers.