Aditya Patel

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Education

MS in Data Science, Stony Brook University, New York — Aug 2025 – May 2027
Coursework: Software Engineering, Data Structures, Algorithms, Distributed Systems, Web Development

Bachelor of Technology in Computer Science, MIT WPU, India **(GPA: 3.8)** — Aug 2021 – May 2025
Coursework: Object-Oriented Programming, Algorithms, Operating Systems, Computer Networks, Design Patterns

Technical Skills

Languages: Java, C++, TypeScript, JavaScript, Python, C#, Golang, SQL
Frontend: React, HTML5, CSS3, Responsive Design, Accessibility, Component Architecture
Backend: Microservices, RESTful APIs, Spring Boot, Node.js, FastAPI, Concurrent Programming
Platform/DevOps: Kubernetes, Docker, CI/CD, Jenkins, Git, Observability, Monitoring

Experience

Machine Learning Project Assistant, Stony Brook University — Aug 2025 – Present

- Engineered a distributed log collection system using **MySQL** and **GoLang** servers, integrating **CI/CD** pipelines for deployment and management across globally data centers that processed up to **18,000+** DML queries per second
- Created a real-time configurable **GoLang** SDK over KiteX RPC interface, extending the logging interface for integration into the Short Video Posting workflow with product listings in America, Asia, and European regions
- Analyzed existing system's architecture, identifying critical logging parameters and seamlessly integrated SDK into key microservices, delivering the project **15%** ahead of schedule while incorporating late-stage requirement additions
- Conducted detailed analysis of logging patterns using **Pandas**, **NumPy**, and **seaborn**, uncovering insights to optimize log volume and improved data gathering, enhancing system efficiency by **26%** and reducing storage overhead by **78%**

Software Developer Intern, Leap and Scale — Aug 2024 – Jan 2025

- Built enterprise web application using **React** frontend with **TypeScript** handling **2000+** daily transactions, implementing component-based architecture with strong HTML/CSS fundamentals that served **50K+** users
- Developed microservices infrastructure in **Java** with RESTful APIs, designing efficient data flow between **12** independent services deployed on **Docker** containers achieving **35%** faster feature delivery
- Implemented **CI/CD** pipelines using Jenkins for automated testing and deployment, integrating observability through Prometheus monitoring that reduced production incidents by **40%** across engineering teams
- Leveraged **Golang** to build high-performance data processing service handling **100K+** requests per minute, applying concurrent programming patterns with goroutines that improved throughput by **3x**

Backend Developer Intern, MIT WPU — Mar 2024 – May 2025

- Migrated Arbiter.report's backend to AWS, integrating DuckDB and optimizing queries using techniques like Hive Partitioning on 1M+ records stored as Amazon S3 Parquet files reducing data retrieval times
- Engineered backend services in **C++** for developer tools platform, implementing multi-threaded algorithms that processed **15K+** code analysis tasks with **30%** improved performance through lock-free data structures
- Designed RESTful API gateway in **Java** connecting **8** microservices, applying industry best practices for versioning and documentation that reduced integration time by **50%** for client teams

Projects

Train Ticket Booking Microservice System - *React, TypeScript, Java Spring Boot, Kubernetes, PostgreSQL*

- Architected full-stack booking platform with **React** and **TypeScript** frontend implementing responsive design, connected to **Java** microservices backend handling **10K+** daily reservations across **6** independent services
- Deployed on **Kubernetes** cluster with automated **CI/CD** using Jenkins, implementing horizontal pod autoscaling and health monitoring that maintained **99.9%** availability under **3x** peak traffic loads

SafeSupportAI - *React, TypeScript, C++, Docker, PostgreSQL*

- Built production web application using **React** with **TypeScript** serving **1K+** users, implementing accessible UI components and **C++** backend with concurrent request handling that processed **50K+** monthly interactions
- Containerized services with **Docker** and implemented observability dashboards tracking API latency and error rates, reducing debugging time by **60%**; winner of **HackMIT 3.0** among **1500+** participants

Achievements and Publications

- **Published** Research Paper in **IEEE Xplore** [**Link**]: Handling Class Imbalance Across various Data Types.
- **Winner** – **HackMIT 3.0** among **1500+ participants**, demonstrating full-stack engineering with **React**, **TypeScript**, and microservices architecture