GAURAV RAKESH SINHA

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Education

Master of Science in Computer Software Engineering | *Northeastern University* | *Boston, MA*   **Sep 2023 - Aug 2025**

<u>Specialized Stream:</u> *Web Design / User Experience, Cloud Computing, Theory & Applications of Gen-AI*

Bachelor of Engineering in Electronics and Telecommunication | *Mumbai University* | *India*   **Sep 2017 - May 2021**

Technical Skills

Programming Languages:	Java, Python, JavaScript, TypeScript, SQL
Web Technologies:	React, Next.js, Node.js, React Native, FastAPI, Jest, JUnit, Selenium, OAuth, gRPC, Expo, Figma
AI & Frameworks:	LangChain, Google ADK, FastMCP, LLMs, RAG, Fine-tuning, PyTorch, Pinecone, NLP
Databases & Monitoring:	PostgreSQL, MongoDB, Redis, Kafka, ELK stack, SonarQube, Grafana, Splunk
DevOps & Tools:	Git, GitHub, Docker, Kubernetes, AWS (EC2. ECS, S3, Lambda), Jenkins, JIRA, Ansible, Bash

Professional Experience

XNET Mobile | *Irvine, CA*   ***Full Stack Developer Intern***   **Jan 2025 - May 2025**

- Built **REST APIs** and customer management features using **Next.js** to accelerate slow onboarding process, adding **OAuth 2.0** and **JWT** authentication system for secure login and integrating Solana Wallet functionality that streamlined account registration workflow
- Containerized services using **Docker** to ensure consistent deployment across environments, integrating **Jenkins** CI/CD pipeline that automated builds and deployments to **AWS infrastructure** and achieved 95% successful deployment rate
- Deployed containerized application to **AWS ECS** with auto-scaling to support reliable production infrastructure, configuring CloudWatch **monitoring** and **alarms** to alert the team about API errors and performance issues in real-time

Tata Consultancy Services | *Mumbai, India*   ***Software Engineer***   **Aug 2022 - Jul 2023**

- Designed versioned **REST APIs** within **Spring Boot** microservices for credit card benefits platform, implementing v1/v2 strategy to support parallel legacy jQuery and React clients during migration, serving 10,000+ concurrent users
- Created search API with **Elasticsearch** integration after monitoring revealed 28% of users abandoning searches due to slow queries on 5,000+ product dataset, implementing full-text search with query optimization and result pagination that cut abandonment to 15%
- Established comprehensive **JUnit** test suites to address quality concerns and reduce bugs reaching production, achieving 90% code coverage across microservices components and strengthening software reliability
- Configured **PostgreSQL indexing** and **Redis caching** layer to improve database query performance, reducing API response times by 55% on frequently accessed endpoints and decreasing database load for product catalog queries

Tata Consultancy Services | *Mumbai, India*   ***Associate Software Engineer***   **Jul 2021 - Jul 2022**

- Engineered real-time Market Analytics dashboard with **React** and **TypeScript** to replace static charts frustrating traders, integrating **WebSocket** connections for live price updates that reduced data display latency from 350ms to 200ms
- Optimized portfolio watchlist architecture using **Redux Toolkit** with normalized state structure to eliminate redundant API calls that degraded app performance, improving watchlist load time from 4.2 seconds to 2.8 seconds
- Enhanced trading **platform accessibility** to meet client's WCAG 2.1 compliance requirements, implementing screen reader support, keyboard navigation, and semantic HTML across core features that improved accessibility score from 23% to 85%

Projects

Presentation Generator   *(Next.js, Redux, React DND, MongoDB, TypeScript)*

- Constructed a dynamic web application leveraging **Next.js** and **React DND**, enabling users to design and share custom animation-based presentations, increasing user engagement through interactive experiences
- Integrated **Redux** to store element states, enhancing application responsiveness and reducing state-related errors by 25%

MCP-Powered Zoo Tour Guide Agent   *(FastMCP, Google ADK, LangChain, Docker, Google Cloud Run)*

- Built a tour guide system by deploying a secure **FastMCP** server and an ADK-based **AI agent** integrated with **LangChain** on Cloud Run, enabling the **Gemini 2.5 Flash** model to access external zoo data and Wikipedia knowledge via the MCP protocol
- Containerized **Python** microservices with Docker using FastMCP for tool APIs and Google ADK for reasoning workflows, implementing IAM authentication and **Cloud Logging** for secure, production-grade orchestration

Equity Lens | Founding Engineer   *(FastAPI, Express, LangChain, FastMCP, Pinecone, React/TypeScript)*

- Engineered an **AI agent** using **LangChain** and FastMCP that reads user portfolio data, retrieves historical earnings transcripts from **Pinecone**, and fetches live market data via Yahoo Finance to answer investment questions in a single contextual response
- Developed a full-stack platform with **React** frontend and **Express** backend, connected to a **FastAPI** AI service powered by a fine-tuned GPT-4o-mini trained on financial Q&A data for accurate, domain-specific responses