

Geetansh Agrawal

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Software Engineer (2.5+ Yrs Exp) with a strong focus on scalable system architecture and high-quality engineering practices. I value clarity in design, precision in implementation, and consistency in execution. Driven by curiosity, ownership, and continuous improvement, I enjoy building reliable systems, solving complex problems, and contributing to products that create meaningful long-term impact.

Experience

Tata Consultancy Services (TCS) – TCS iON Digital Assessment Platform

Bengaluru, India

PRODUCT ENGINEER

Aug 2023 – Present

- Spearheaded platform scalability to reliably support 1M+ daily assessment transactions** by decomposing the monolithic evaluation engine into **domain-driven microservices**, establishing clear service boundaries and enforcing idempotent REST interfaces for predictable request handling.
- Accelerated system throughput by 35% and eliminated workflow bottlenecks** by orchestrating the transition of core evaluation flows to a **distributed event-driven architecture**, leveraging Kafka/RabbitMQ with asynchronous message queues, consumer groups, and resilient dead-letter mechanisms.
- Reduced database query latency by 40% and improved data throughput for 1M+ candidate records** by restructuring workloads across **MySQL (transactional)** and **MongoDB (document storage)**, optimizing indexes, implementing read/write separation, and integrating Redis-based hot-cache layers for high-frequency operations.
- Increased deployment reliability and minimized environment drift** by adopting **immutable Docker image builds**, standardizing environment parity, and enabling zero-downtime rolling deployments on **AWS EC2** through automated CI/CD pipelines.
- Reduced response time by 25% and strengthened operational security** by refactoring core modules using scalable design patterns and implementing **RSA/AES encrypted logging** with automated key rotation.

Technical Skills

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| Backend & Distributed Systems | Java, Spring Boot, Node.js, Microservices, Kafka, RabbitMQ |
| Databases & Caching | MySQL, MongoDB, Redis |
| Cloud & DevOps | AWS (EC2, S3, Lambda), Docker, CI/CD |
| Frontend | React, Next.js, JavaScript |
| Core CS | Data Structures, Algorithms, System Design, Design Patterns |

Projects

ByteBox - Cloud File Storage App

gbytebox.vercel.app

NEXT.JS, NODE.JS, MONGODB, TELEGRAM API, AWS

- Delivered secure personal storage to **100+ users** by engineering an encrypted workflow using the **Telegram Bot API** with instant notifications.
- Achieved a **90% cost reduction** by innovating a Telegram-backed persistent file storage layer as an alternative to traditional cloud solutions.
- Accelerated folder navigation by designing a tree-based directory model optimized for lightweight recursive lookups.
- Built a differentiated architecture leveraging a Telegram-first storage workflow, making the system distinct from traditional cloud file managers.

Vibe - Real-Time Chat App

vibe-chat-app.com

REACTJS, NODE.JS, SOCKET.IO, WEBRTC, MONGODB

- Supported **50+ concurrent users** by building and optimizing a **Socket.io** WebSocket layer for highly consistent low-latency messaging.
- Implemented secure real-time video calls by integrating **WebRTC** with TURN/STUN signaling for reliable peer connectivity.
- Boosted message retrieval speed by refining **MongoDB** indexing and caching high-frequency message batches.

Achievements

- Engineered a **real-time visitor analytics system** using an **event-driven streaming architecture**, securing **2nd Place at the GreenDeck Hackathon**.
- Lead App Developer at Google Developer Student Club (GDSC)** — Conducted **5+ hands-on bootcamps** and mentored **100+ students** in full-stack development and project implementation.

Education

University Institute of Technology RGPV

B.TECH — COMPUTER SCIENCE & ENGINEERING; CGPA: 8.23

Bhopal, India

May 2019 – Jun 2023