Gajanan Rathod

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github.com/gajanansr

Professional Summary

Fullstack Software Engineer specializing in real-time systems, high-performance APIs, and scalable architectures using Java, Javascript, Spring Boot, PostgreSQL, and Redis.

Education

Sinhgad College of Engineering, BE in Information Technology (GPA: 7.97/10)   2021 – 2025

Technical Skills

Languages & Frameworks: Java, JavaScript, TypeScript, Spring Boot, React, Next.js
Databases: PostgreSQL, MongoDB, Supabase
Infra & Tools: Docker, Redis, JWT, WebSockets, Git, Postman, Vercel, Railway
System Design: REST APIs, real-time systems, caching, authentication & authorization, scalability fundamentals

Projects

Loopin - Monetized Real-Time Chat Platform with Access Control   github.com/gajanansr/loopin-backend

- Designed a scalable Spring Boot backend for real-time messaging using WebSockets and Razorpay subscriptions.
- Optimized PostgreSQL queries using composite indexing and Redis caching.
- Implemented secure JWT auth with **single-device enforcement** using Redis sessions and BCrypt password hashing.
- **Tech Stack:** Java 21, Spring Boot, Spring WebFlux, PostgreSQL, Redis, WebSocket, JWT, Razorpay, Docker

AutoMix Audio Engine - Web-based DAW with AI-Powered Vocal Processing   github.com/gajanansr/audioEngine

- Built a web-based DAW that automates professional vocal mixing, cutting manual mix time by **97%**.
- Designed a real-time DSP engine with **8+ processors** forming a production-grade vocal signal chain.
- Automated mix parameter generation via AI analysis of pitch, dynamics, and frequency data.
- Designed a scalable job-queue system using serverless functions and containerized workers for parallel audio processing.
- **Tech Stack:** TypeScript, React, Supabase, PostgreSQL, Deno, Docker, Node.js, Web Audio API, DSP

Rewind DSA - Psychology-First, Think-Aloud Interview Prep Platform   github.com/gajanansr/rewind

- Built a interview prep PWA enabling **think-aloud practice, AI analysis, and pattern-driven** spaced repetition learning.
- Cut API database calls by **98%** by fixing N+1 queries using JPA EntityGraph (170+ $\rightarrow$ 3 queries).
- Reduced backend memory usage by **32%** through JVM tuning and optimized HikariCP connection pooling.
- Secured multi-tenant data access using **JWT (ES256)** authentication and PostgreSQL Row-Level Security.
- **Tech Stack:** Java 21, Spring Boot, PostgreSQL, JPA, React, TypeScript, Vite, Supabase, JWT, PWA

Experience

Associate Software Engineer, LTI Mindtree   July 2025 – Present

- Designed and implemented backend services using Java and Spring Boot for multiple internal and client-facing applications, focusing on clean APIs and scalable architecture.
- Working on a client project in Guidewire, gaining experience with enterprise-grade systems and production workflows.
- Building a COE-driven internal full-stack product inspired by roadmap.sh, emphasizing backend scalability, structured learning flows, and performance-aware API design.

Backend Developer Intern, CloudScale   Oct 2024 – Dec 2024

- Built a secure Razorpay payment system with backend validation and minimal frontend exposure
- Integrated PostgreSQL with SQLAlchemy for efficient data handling and transactional workflows
- Automated issue creation using Docker log parsing, reducing manual triage time by **60%**
- Created high-level design documents outlining architecture and implementation details for both systems