

KARAN BHATT

Backend Engineer | Node.js | Microservices | REST APIs

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Professional Summary

Backend Engineer experienced in building scalable distributed systems using Node.js, PostgreSQL, Redis, Docker, and cloud infrastructure. Skilled in system design, transactional systems, caching, and real-time applications.

Solved **400+ DSA problems** on LeetCode with **contest rating of 1679**, demonstrating strong problem-solving across arrays, graphs, DP, and sliding-window patterns.

Work Experience

GSX Solutions

July 2026 – Present

SDE Intern

New Delhi, Delhi

- Built backend services for a real-time prediction exchange using Node.js, Express.js, PostgreSQL, Redis, Docker, and WebSockets.
- Engineered a transactionally isolated order matching engine using PostgreSQL transactions and row-level locking (SELECT FOR UPDATE) to guarantee atomic trade execution and prevent race conditions.
- Implemented Write-Behind, Cache-Aside, and Write-Through Redis caching strategies, reducing SQL writes by 90%+ while improving API responsiveness for high-concurrency workloads.
- Secured the platform with JWT refresh-token rotation, HttpOnly cookies, role-based authorization, and secure session management.
- Containerized and deployed backend infrastructure on DigitalOcean using Docker, PM2, NGINX, and Managed PostgreSQL, ensuring reliable production deployments.

Adventroz (Avolingo Travel Pvt. Ltd.)

January 2024 – June 2026

Co-Founder & Lead Engineer

New Delhi, Delhi

- Co-founded and built Adventroz from the ground up, an AI-powered travel platform offering AI-generated audiobooks in 29+ languages and location-based discovery of local tour guides.
- Owned the end-to-end technical architecture, designing and implementing the frontend, backend, APIs, databases, authentication, and deployment infrastructure.
- Architected and maintained a microservices-based backend serving 1,000+ registered users.
- Optimized SQL query performance through compound indexing, query optimization, and schema redesign, reducing average API response time by ~30–40%.
- Deployed containerized services using Docker, AWS EC2, and Nginx, owning production deployments and infrastructure.

Key Projects

Lumina AI | [Next.js](#), [TypeScript](#), [Node.js](#), [MongoDB](#), [Redis](#), [BullMQ](#), [WebSockets](#), [Docker](#), [Gemini AI](#) [Github Link](#)

- Built an AI-powered teaching platform that generates customized exam papers and assignments from teacher-defined parameters using Gemini AI.
- Engineered asynchronous job processing with BullMQ and Redis, eliminating request timeouts on 10–30s LLM generations by moving work to background jobs.
- Implemented JWT authentication with OTP email verification, refresh-token rotation with reuse detection, rate limiting, and HTTP-only cookies.

Technical Skills

Languages: JavaScript (ES6+), TypeScript, Python, C++, Dart

Backend Technologies: Node.js, Express.js, REST APIs, WebSockets, JWT Authentication, BullMQ

Databases: PostgreSQL, MongoDB, MySQL

Caching: Redis

Software Engineering Concepts: System Design, Microservices, Database Optimization, Redis Caching, Transaction Management, Authentication & Authorization, Queue-Based Architectures, Real-Time Systems

Core CS: DBMS, Operating Systems, Computer Networks, Object-Oriented Programming

Cloud & DevOps: Docker, DigitalOcean (App Platform, Droplets), AWS EC2, Nginx, PM2, Git, GitHub Actions

Testing: Jest, Postman

Frontend: React.js, Next.js, Flutter, Tailwind CSS

Leadership / Extracurricular

IOSC-EDC Club

January 2025 – April 2026

Tech Co-Lead

University School of Automation and Robotics

- Mentored 10+ students in full-stack development and led technical execution of Vespera, coordinating 50+ members.

Education

University School of Automation and Robotics

Sept 2023 – Expected July 2027

Bachelor of Technology (CGPA: 7.84 / 10)

Surajmal Vihar, Delhi