

# VISHWAJEET KUMAR

SOFTWARE DEVELOPMENT ENGINEER (BACKEND / DISTRIBUTED SYSTEMS / AI)

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[LinkedIn](#) | [Github](#) | [Portfolio](#) | [Leetcode](#)

## PROFESSIONAL SUMMARY

Backend-focused Software Development Engineer with experience building scalable systems, low-latency distributed backends, and AI-powered services. Strong in Node.js, NestJS, Redis, PostgreSQL, WebSockets, AWS, and FastAPI, with hands-on open-source contributions to production-grade AI libraries.

## TECHNICAL SKILLS

- Languages:** Python, JavaScript (ES6+), Java, C#
- Backend Development:** Node.js, Express, NestJS, FastAPI, REST, WebSockets, Microservices
- Frontend Development:** Next.js, React.js, Tailwind CSS
- Databases & Caching:** PostgreSQL, MongoDB, Redis, Firebase
- Cloud/DevOps:** AWS (EC2, S3, RDS), Docker, Git, GitHub, CI/CD, GitHub Actions
- Security & AI:** JWT, RBAC (CASL), LLMs, RAG, Vector Embeddings
- Core CS:** Data Structures & Algorithms (400+ problems), System Design

## OPEN SOURCE CONTRIBUTIONS

### LangChain — Open Source Contributor

- Enhanced `init_chat_model` with improved validation, model inference logic, and clearer error handling.
- Added automated test coverage and collaborated with maintainers through production-level code reviews.

## PROJECTS

### Real-Time Multiplayer Gaming Platform (Distributed Backend System)

*Node.js (Express), PostgreSQL, Redis, AWS, Socket.IO*

- Designed and implemented a real-time distributed backend supporting concurrent multiplayer sessions.
- Used Redis for in-memory state management to ensure atomic operations and prevent race conditions.
- Built room-scoped WebSocket communication for low-latency state synchronization.
- Implemented reconnection handling for unstable client networks.
- Deployed stateless services on AWS, enabling horizontal scaling.

### Distributed URL Shortener

*Node.js / FastAPI, PostgreSQL, Redis, AWS*

- Built a high-read scalable URL shortening service optimized for low-latency redirects.
- Implemented Redis caching, rate limiting, and abuse prevention to reduce database load.
- Designed collision-resistant short URL generation with indexed queries and documented system design trade-offs.

### AI-Powered Code Review & PR Analysis System

*FastAPI, OpenAI / Gemini, RAG, Vector Embeddings*

- Built an AI-powered PR analysis system to evaluate code quality, security risks, and complexity across repositories.
- Implemented RAG-based pipelines with embeddings and modular APIs to generate actionable, multi-language review summaries.

## WORK EXPERIENCE

### Software Developer Intern, StuFit Approach Pvt. Ltd., Lucknow

July 2025 - September 2025

- Built and deployed a scalable healthcare backend using NestJS and PostgreSQL serving 2,000+ users.
- Implemented JWT-based authentication and role-based access control (RBAC).
- Optimized APIs and queries, reducing latency by 30%.
- Worked in Agile teams, reducing production issues by 20%.

## EDUCATION

### Bachelor of Technology in Computer Science and Engineering (AI Specialization)

University of Lucknow | SGPA: 8.10 | Nov 2022 - Present