

VANSH KUMAR GARG

Software Development Engineer (SDE-1) — Backend / Full-Stack

[Portfolio](#) — [GitHub](#) — [LinkedIn](#)

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Software Engineering student with strong backend focus, experienced in building scalable APIs, payment workflows, and real-time systems using Node.js and MongoDB.

Strong foundation in data structures and algorithms, applied while building production-style backend systems.

EDUCATION

Thapar Institute of Engineering and Technology, Patiala, Punjab

Sep 2022 – May 2026

B.E. in Computer Science and Business Systems

CGPA: 7.86

Mahindra Public School, Bathinda, Punjab

May 2022

XII (CBSE)

12th Grade: 89.3%

PROJECTS

MovieTix – Online Movie Ticket Booking Platform

[Live Demo](#) — [GitHub](#)

- **Tech:** Node.js, Express.js, MongoDB, Stripe, React.js, Tailwind CSS, Clerk, Vercel
- Designed and implemented a secure movie ticket booking system with role-based access and real-time booking confirmations within **5s** (tested manually).
- Integrated **Stripe Checkout** with webhook-based payment verification, handling success, failure, and retry scenarios to ensure booking consistency.
- Engineered backend APIs using **Node.js** and **MongoDB** with compound indexing and atomic updates to prevent double booking during concurrent seat selection.
- Built an internal dashboard to monitor API latency and failure rates, identifying and resolving bottlenecks that improved overall response time by **15%**.
- Optimized API responses and frontend rendering to achieve sub-2s First Contentful Paint on core pages under real usage scenarios.
- Followed clean code practices with modular APIs, reusable services, and consistent error handling.
- **Impact:** Streamlined booking workflows, creating a high-performance, self-operating ticketing system.

Food-Delivery Website

[GitHub](#)

- **Tech:** React.js, Redux Toolkit, Node.js, Express.js, MongoDB, Stripe, Postman, Tailwind CSS
- Implemented role-based access with admin and restaurant dashboards for menu management, order monitoring, and delivery coordination.
- Built real-time cart and ordering with responsive UI: restaurant listings, categories, live order tracking, and seamless checkout across **3 device types** — desktop, tablet, and mobile.
- Designed RESTful APIs for full order lifecycle, including secure payments, status tracking, and delivery assignment; optimised for high order volumes.
- Integrated Stripe with end-to-end encryption, enabling **100% secure, automated confirmations** and eliminating manual payment verification.
- **Impact:** Improved operational efficiency and tracking across all roles; faster, clearer order visibility.

TECHNICAL SKILLS

Languages: C/C++, Python, JavaScript, SQL, HTML5, CSS3

Frameworks: Node.js, Express.js, React.js

Databases: MongoDB, MySQL

Tools/Platforms: Git, VS Code, Postman, Vercel, Stripe API, JWT, Clerk

Concepts: REST API Design, Authentication Authorization, Database Indexing, Concurrency Handling, Async Programming, Performance Optimization

ACHIEVEMENTS

- **600+** LeetCode questions solved across DSA, DP, Trees, Graphs, and Arrays. [LeetCode](#)
- **200+** GeeksforGeeks problems focusing on algorithmic optimization and time complexity.
- LeetCode **Rating: 1562** through consistent participation in weekly contests.

RELEVANT COURSEWORK

- Data Structures & Algorithms
- Computer Networks
- Software Design (Agile/Scrum)
- Operating Systems
- Database Systems
- Object-Oriented Programming