

VINAY KUMAR

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ABOUT

Software Engineering student focused on building reliable backend systems involving concurrency, transactions, and real-time communication using **Node.js**, **Express.js**, **React.js**, and **MongoDB** with a strong foundation in **Data Structures and Algorithms**.

EDUCATION

Indian Institute of Information Technology, Tiruchirappalli (IIITT) — Tiruchirappalli, Tamil Nadu
B.Tech in Electronics and Communication Engineering — CGPA: 8.23 — Aug 2022 – Present

EXPERIENCE

Full Stack Developer Intern – OneStop Pvt. Ltd. (Remote)

May 2025 – Jul 2025

- Worked on backend APIs and data handling for production features.
- Implemented secure authentication using JWT (JSON Web Tokens) and Role-Based Access Control (RBAC) to ensure data privacy for multi-user sessions.
- Improved application reliability through structured backend logic and validations.

TECHNICAL SKILLS

Languages: C++, Python, JavaScript

Web Technologies: Node.js, Express.js, React.js, MySQL ,MongoDB, REST APIs, Socket.IO, Chart.js

Tools & Platforms: Git, GitHub, Postman, Render, Vercel.

Core Concepts: Data Structures & Algorithms, Object-Oriented Programming(OOPs), Operating System(OS), Database Management System(DBMS).

PROJECTS

Secure Peer-to-Peer Digital Wallet

Live Github

- Designed an append-only ledger system to track all monetary operations without direct balance mutation.
- Implemented atomic peer-to-peer payments using MongoDB transactions to prevent partial updates.
- Ensured exactly-once execution for payments using request identifiers and transactional guarantees.
- Implemented MongoDB ACID Transactions (Sessions) to ensure data integrity, automatically rolling back failed transfers
- **Technologies:** Node.js, Express.js, MongoDB.

Collaborative Real-Time Text Editor

Github

- Built a multi-user real-time editing platform supporting simultaneous document updates.
- Integrated Socket.IO to broadcast code changes to all connected clients in real-time with less than 100ms latency.
- Created a room-based architecture allowing users to create private coding sessions with unique room IDs.
- **Technologies:** Node.js, Express.js, Socket.IO, MongoDB, Fabric.js.

ACHIEVEMENTS

LeetCode: Rating 1800+ in contests, actively participating in problem-solving challenges

CodeChef: Rating 1602+ (3*), consistently ranked among top performers

Codeforces: Specialist 1405+ consistently ranked among top performers

Hackathon Finalist: Ranked Top 10 among 50+ teams at [Code Battle (IIIT TRICHY)] (2025).

ACTIVITIES

Member – Google Developer Student Club (GDSC), IIITT

- Participated in hackathons and workshops; mentored peers in DSA and web development.