

Tushar Agarwal

+91-8871074581 | tushar7436@gmail.com | linkedin | github | leetcode | Portfolio

Education

Bachelor's in Technology, Computer Science and Engineering
Vellore Institute of Technology (VIT)

Expected May 2026

Skills

Languages/DB: C, C++, JavaScript, TypeScript, MySQL, PostgreSQL, MongoDB

Tools/Frameworks: HTML, CSS, Tailwind, React.js, Next.js, Node.js, Express.js

Projects

Flight Booking System [Link]

Sep 2025

- Developed complete microservices architecture with Search, Booking, and Notification services behind an API Gateway, using JWT authentication and clean API versioning.
- Engineered relational schemas with 10+ MySQL tables, enforced foreign key constraints with cascading operations, and managed database migrations using Sequelize CLI; ensured ACID-compliant transactional flows with robust logging for maintaining data integrity.
- Built reliable service-to-service communication using Pub/Sub architecture, implemented business logic for flight search and booking workflows, and integrated secure payment gateway handling.

Computer Repair Shop [Link]

Aug 2025

- Built a CRM portal with ticket submission and a secure staff-only assignment system, using Next Auth for protected routes and password-less authentication.
- Integrated Kinde Auth for Role-Based Access Control and used Drizzle ORM with PostgreSQL, applying schema validation and migrations for reliable, optimized queries.
- Used TanStack Table for fast data grids, deployed on Vercel with autoscaling, and added Sentry for full performance and error monitoring.

PeerFlow Server [Link]

July 2025

- Group Video Chat Application using WebRTC (via PeerJS) for low latency and peer-to-peer media transfer and Socket.io for signaling and bidirectional communication.
- Built Server architecture using Node.js and WebSockets with an intent to create a Selective Forwarding Unit (SFU) model to efficiently manage multi-party video.
- Learned concepts like ICE candidates with STUN and TURN servers for robust NAT traversal, ensuring reliable peer connections and fallback routing in dynamic group video chat environments.

Extra Curricular Activities

Smart India Hackathon - Internal Finalist

Aug 2024

- Engineered a highly scalable web application as a key full-stack developer and leveraging advanced machine learning algorithms to address the problem's core technical requirements.

IEEE Student Chapter - Core Member

June 2024

- Coordinated 5 coding events, including Beyond Level 0 hackathon with 200+ participants.
- Led development of chapter websites and event platforms using modern web tools and deployed responsive web platform.

SAE AeroTHON- Finalist

June 2023

- Analyzed more than 10 comprehensive research papers in the specialized field of aerodynamics. Contributed significantly to advanced UAV simulation modeling and secured a competitive 32nd rank all over India.