ABHIJAY KUMAR SHAH

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Education

Vellore Institute of Technology	**Jul 2026 (Expected)**
B.Tech in Computer Science & Engineering	CGPA: 8.43 / 10.0
DAV Public School, Dudhichua	**2019–2021**
Senior Secondary (Class XII)	CGPA: 9.20 / 10.0
DAV Public School, Surya Vihar	**2018–2019**
Secondary (Class X)	CGPA: 9.85 / 10.0

Technical Skills

Languages: C++, Python, JavaScript, SQL, HTML/CSS
Backend & Databases: Node.js, Express.js, REST APIs, WebSockets, MongoDB, PostgreSQL
Cloud, Tools & Networking: AWS (EC2, S3, Lambda), JWT Authentication, Docker, Git, Postman

Projects

Comfortable Stay — Hotel + Restaurant Alliance
HTML, CSS, JavaScript, Chart.js — Backend via External Services (MERN Planned)   [Link]
- Designed a QR-driven alliance platform improving discoverability for PGs and budget hotels via bill-based free stay eligibility.
- Implemented business logic for eligibility checks, room-tier allocation, analytics dashboards, and booking workflows.
- Planned backend migration to REST APIs, database-backed persistence, validation, and role-based access.

BACKEND STORE RATING PLATFORM
Node.js, Express.js, PostgreSQL, JWT — Aug 2025   [Link]
- Designed and developed RESTful APIs with Node.js and Express.js to support role-based access for admins, users, and store owners.
- Implemented secure authentication and authorization using JWT, input validation, and role-based permissions (RBAC).
- Architected a normalized PostgreSQL schema enabling scalable store management, ratings, filtering, and sorting operations.

ENGLISH TUTOR AI
Node.js, Socket.IO, Web Speech API, OpenRouter — Apr 2025(in progress)   [Link]
- Built a real-time backend system using Node.js and Socket.IO to handle bi-directional voice interactions.
- Integrated AI-powered language processing via OpenRouter for grammar correction, pronunciation feedback, and vocabulary enhancement.
- Implemented event-driven communication and session handling to support low-latency, multi-user interactions.

Advanced Multi-Video Player
JavaScript, Browser APIs, Performance Optimization — Windows and MacOS   [Link]
- Engineered a multi-instance video playback system supporting up to 9 concurrent players, synchronized controls, and playback speeds up to 10× using optimized event handling.
- Implemented intelligent file validation and corruption detection, ensuring safe loading with real-time error reporting and recovery mechanisms.
- Designed resource-efficient state and memory management to maintain stable performance across Windows and macOS, including real-time performance monitoring and cleanup of unused media resources.

Leadership / Achievements

CatCatchCode	**Jul 2025 − Present**
Team Lead	VIT

- Founder of CatCatchCode.online, an ed-tech initiative focused on structured technical learning.
- Led a 5-member team to produce 100+ technical learning videos, impacting 100+ students.
- Built and expanded presence across LinkedIn, YouTube, Instagram, and GitHub.

Certifications

MERN Full Stack Certificate — Apr 2025 [Link]