

YUVAJ SINGH

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EDUCATION

Vellore Institute of Technology

Bachelor of Technology in Computer Science and Engineering

Aug 2022 – Oct 2025

CGPA: 8.33/10

PROJECTS

Exchange Platform | 🐙 | *Next.js, TypeScript, Tailwind CSS, WebSocket, CI/CD*

Nov 2025

- Engineered **WebSocket service** with Singleton pattern to stream real-time data for 100+ cryptocurrency pairs from Backpack Exchange APIs.
- Composed an interactive **order book and candlestick charts** achieving 94% accessibility score.
- Pioneered backend enhancements, integrating Backpack's API to expedite market data delivery, achieved a **20% reduction in latency**, and improved the data ingestion rate by **300 messages per second**.
- Revamped existing CI/CD infrastructure shortening deployment time by 75% and enabling faster iteration cycles for development teams.

Doodle Space | 🐙 | *Next.js, TypeScript, Tailwind CSS, WebSocket, Prisma, Docker, PostgreSQL*

Aug 2025

- Created a collaborative **Excalidraw-style whiteboard**, enabling real-time multi-user drawing and editing, integrated live cursor tracking and shared annotations, and boosted team collaboration efficiency by 30%.
- Streamlined a **WebSocket synchronization layer** for real-time broadcasting of shapes and annotations, improving update delivery speed by 35% and supporting 500+ concurrent users with sub-100ms latency.
- Optimized rendering using **virtualized canvas layers**, boosting performance by 40%.
- Integrated a **PostgreSQL + Prisma** backend for session persistence and board history, enabling reliable state recovery, reducing data loss incidents by 30%, and supporting seamless multi-session collaboration.

Contest Tracker | 🐙 | *Next.js, TypeScript, Tailwind CSS, App Router*

Feb 2025

- Implemented contest filtering and bookmarking features with state persistence, enabling users to save and quickly access an average of 3 upcoming and past contests, reducing search time by 40%.
- Created **countdown timers** for upcoming and past contests with state persistence via **localStorage**.
- Developed an admin dashboard integrating YouTube API to streamline linking relevant video solutions to 500+ completed contest records, improving content accessibility for judges by 40%.

TECHNICAL SKILLS

Languages: Java, JavaScript, Bash, TypeScript

Frameworks & Libraries: React.js, Next.js, Node.js, Express.js, Tailwind CSS, Jotai

Databases: PostgreSQL, MongoDB, Prisma, JWT, Websockets

Cloud & DevOps: AWS (EC2, S3, Lambda, CloudFront), Docker, CI/CD, GitHub Actions

Tools & Practices: Neovim, Git, Postman, Figma (basic), REST APIs, OOP, Data Structures & Algorithms, Computer Networks

OPEN SOURCE CONTRIBUTIONS

n8n (Workflow automation platform) — Improved a frontend enhancement, adding timezone-aware date formatting (formatDateForUI) and resolving linked issue discussions.

p5.js (JavaScript creative coding library) — Enhanced p5.js documentation clarity for Vector.fromAngle(), improving usability for new contributors.

ACHIEVEMENTS & CERTIFICATIONS

Smart India Hackathon — Proposed a citizen grievance forum app with location-based complaint tracking for Smart India Hackathon 2025.

AWS Solutions Architect — Learned designing and deploying secure, resilient AWS cloud computing architectures.

MERN Full Stack Certification — Gained hands-on experience in building and deploying scalable full-stack web applications using MongoDB, Express.js, React, and Node.js.

Meta Version Control Certification — Proficient in Git, GitHub workflows, and team-based collaborative development.