

# YUVRAJ 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

<b>Exchange Platform</b>   🐾   <i>Next.js, TypeScript, Tailwind CSS, WebSocket, CI/CD</i>	Nov 2025
<ul style="list-style-type: none"><li>Engineered <b>WebSocket service</b> with Singleton pattern to stream real-time data for 100+ cryptocurrency pairs from Backpack Exchange APIs.</li><li>Composed an interactive <b>order book and candlestick charts</b> achieving 94% accessibility score.</li><li>Pioneered backend enhancements, integrating Backpack's API to expedite market data delivery, achieved a <b>20% reduction in latency</b>, and improved the data ingestion rate by <b>300 messages per second</b>.</li><li>Revamped existing CI/CD infrastructure shortening deployment time by 75% and enabling faster iteration cycles for development teams.</li></ul>	
<b>Doodle Space</b>   🐾   <i>Next.js, TypeScript, Tailwind CSS, WebSocket, Prisma, Docker, PostgreSQL</i>	Aug 2025
<ul style="list-style-type: none"><li>Created a collaborative <b>Excalidraw-style whiteboard</b>, enabling real-time multi-user drawing and editing, integrated live cursor tracking and shared annotations, and boosted team collaboration efficiency by 30%.</li><li>Streamlined a <b>WebSocket synchronization layer</b> for real-time broadcasting of shapes and annotations, improving update delivery speed by 35% and supporting 500+ concurrent users with sub-100ms latency.</li><li>Optimized rendering using <b>virtualized canvas layers</b>, boosting performance by 40%.</li><li>Integrated a <b>PostgreSQL + Prisma</b> backend for session persistence and board history, enabling reliable state recovery, reducing data loss incidents by 30%, and supporting seamless multi-session collaboration.</li></ul>	
<b>Contest Tracker</b>   🐾   <i>Next.js, TypeScript, Tailwind CSS, App Router</i>	Feb 2025
<ul style="list-style-type: none"><li>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%.</li><li>Created <b>countdown timers</b> for upcoming and past contests with state persistence via <b>localStorage</b>.</li><li>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%.</li></ul>	

## 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.