

UTSAV SINGH

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SUMMARY

Computer Science Engineering student with experience in full-stack development, analytics-driven applications, and SQL-based reporting systems. Skilled in Python, SQL, and dashboard development, with leadership experience mentoring 200+ students through technical communities. Passionate about leveraging technology to solve real-world problems.

TECHNICAL SKILLS

Languages: JavaScript, Python, Java

Backend: Node.js, Express.js

Frontend: React.js, Tailwind CSS, HTML5, CSS3

Databases: MongoDB, MySQL, PostgreSQL

Tools & Platforms: Git/GitHub, Supabase, Postman, Figma, VS Code, AWS

EXPERIENCE

Kalam Pragati | Rapid Prototyping Intern

Aug 2025 – Sep 2025

Figma, CAD, IoT

Lucknow, India

- Designed and developed an IoT-enabled waste management system integrating AI-based detection with Arduino hardware, delivering a fully functional prototype including React frontend, Supabase backend, and Arduino-based embedded systems.
- Achieved **80% full-capacity alert accuracy**, reducing manual bin monitoring and improving operational efficiency through real-time sensor data processing.
- Recognized by **Dr. K.V. Raju** (Member, Economic Advisory Council to the Prime Minister of India) during Demo Day presentation for innovative approach to urban waste management.
- Collaborated with cross-functional team applying design thinking methodology to solve real-world sustainability challenges.

PROJECTS

EduAgent AI | Next.js, Firebase, LiveKit, TypeScript

2026

- Developed an AI-powered classroom assistant enabling real-time teacher guidance with engagement monitoring, multilingual support, contextual analogy generation, and attention recovery suggestions.
- Built a scalable virtual classroom platform using LiveKit SFU WebRTC with secure video conferencing, live chat, participant management, and low-latency communication.
- Integrated Firebase Authentication and Firestore to manage secure user access, classroom sessions, and real-time synchronization with serverless scalability.
- Designed teacher analytics dashboards providing AI-generated session summaries, classroom engagement insights, and personalized learning recommendations.

CleanSweep: AI + IoT Waste Management System | JavaScript, ESP8266, Leaflet.js

2025

- Built an AI-powered waste management platform within **24 hours**, enabling garbage detection, litter reporting, and municipal monitoring through an integrated dashboard.
- Designed and prototyped an IoT-based smart bin system using **ESP8266, Arduino, and ultrasonic sensors** to monitor bin capacity and trigger real-time alerts.
- Achieved **80% full-capacity detection accuracy** and reduced manual monitoring through automated sensor-based tracking, dashboard updates, and SMS notifications.
- Developed analytics dashboards for monitoring waste collection activity, sensor readings, and operational performance metrics.

ACHIEVEMENTS & Certifications

- National Hackathon Winner CodeBlitz** Secured 2nd Rank organised by OSEN in 2026
- Agentic Premier League** Secured 2nd Rank organised by GDG Lucknow in 2026
- Technical Coordinator & Cloud Mentor** Google Developers Group (GDG) on Campus. Mentored 200+ Students with 70+ successfully completing Google Cloud Study Jam under my guidance. Organized various other technical events during my tenure.
- UI/UX mentor** @Binary Brains. Mentored UI/UX Principles to Students.
- Was Part of TechSprint WinterHack **Judging Panel** with Students participating from all across the Nation.
- Data Analyst Course** — Simplilearn SkillUp (2026) — Excel, SQL, Python, Dashboarding, Data Analysis