



Siddharth Pulugujja

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EDUCATION

• National Institute of Technology, Warangal

Bachelor of Technology, Computer Science and Engineering

• Resonance Junior College, Hyderabad

Telangana State Board of Intermediate Education

• Rotterdam International School, Hyderabad

Central Board of Secondary Education

PERSONAL PROJECTS

• Cyberpunk-Themed Website Clone

Developed a responsive single-page website inspired by the visual aesthetics of the Cyberpunk 2077 game.

- Tools & technologies used: HTML, CSS, JavaScript, GSAP (for animations)
- Designed and implemented futuristic UI/UX elements including neon-glow effects, animated scroll transitions, and dark-mode aesthetics. Improved frontend development and animation skills.

• 2D Java Cannon Simulation Game

Simulating cannons shooting balls and detecting collisions with effects

- Tools & technologies used: Java, AWT/Swing, Custom Audio System
- Implemented shooting mechanics, real-time collision detection, and explosion effects upon impact. Integrated audio playback and visual feedback, improving understanding of object-oriented programming and graphics handling in Java.

• InClass – Smart Geofenced Attendance System

Developing a full-stack intelligent attendance platform integrating geofencing, AI-based identity verification, and secure authentication.

- Tools & technologies used: Node.js, Express.js, PostgreSQL, React.js (Vite), JWT, Twilio OTP, Google Maps Geolocation API, Socket.io, face-api.js (client), @vladmandic/face-api (server), TensorFlow.js Node backend, WebAuthn (FIDO2), AES-256-GCM encryption, Nodemailer, pgAdmin, Postman.
- Implementing advanced AI-driven face recognition using face-api.js (SSD MobileNet + 68-landmark + recognition model) on the client and TensorFlow.js + @vladmandic/face-api on the backend for secure face embedding verification using cosine similarity.
- Integrating WebAuthn-based fingerprint/device biometric authentication with secure credential creation, signature validation, counter-based replay protection, and multi-device support for faculty and students.
- Built backend REST APIs with complete role-based authorization, session-based attendance logic, time-restricted codes, duplicate-entry detection, tab-switch detection, device/IP anomaly monitoring, and mandatory biometric verification.
- Implemented geofencing using Google Maps API combined with Haversine distance validation to prevent proxy attendance and ensure physical presence on campus.
- Designed and optimized a scalable PostgreSQL schema covering colleges, departments, users, courses, sessions, biometric templates, fingerprint-assist workflow, expired-code reports, and session-wise fraud analytics.
- Added full real-time capabilities using Socket.io for attendance session activation, live student attendance updates, registration approvals, fingerprint-assist request flow, and administrative notifications.
- Built automated email/SMS systems (Nodemailer + Twilio) for OTPs, alerts, and suspicious-activity warnings.
- Designed a fingerprint-assist workflow enabling students without onboard fingerprint hardware to get faculty-assisted registration.
- Enabled multi-college scalability using composite database uniqueness on (college_id, roll_no).
- Deployed separate Student/Faculty portals, added hidden secure admin routes, and redesigned onboarding flows for multi-factor biometric security.
- Project is still under construction, expanding toward full biometric verification, AI anomaly detection, and deployment as a production-ready platform.

TECHNICAL SKILLS AND INTERESTS

Languages: C, C++, JAVA, JavaScript, HTML, CSS, R, Python (AI/ML), Basics of Assembly

Developer Tools: Docker, VS Code, IntelliJ IDEA, GIT, PgAdmin 4, Postman, OpenCV

Frameworks: React.js, Node.js, Express.js, Flutter, Hyperledger Fabric, Spring Boot

Cloud/Databases: MongoDB, MySQL, PostgreSQL, Google Cloud APIs (Geolocation, Geocoding)

Soft Skills: Teamwork, Storytelling, Leadership (NCC), Creative Thinking, Adaptability, Communication, Photography

Coursework: Data Structures and Algorithms, Computer Networks, Operating Systems, Database Management Systems, Object Oriented Programming, Web Development

Areas of Interest: Full Stack Development, Machine Learning, AI/Computer Vision, Authentication Systems, Geolocation Systems, Blockchain, Cybersecurity, Filmmaking, UI/UX Design

POSITIONS OF RESPONSIBILITY

•**Lance Corporal**, NCC(National Cadet Corps)

2023 - current

•**Member**, Film Club

2024 - current

ACHIEVEMENTS

•**JEE MAINS** Secured AIR 3115(CRL) in JEE MAINS

2023

•**JEE MAINS** Secured AIR 599(OBC-NCL) in JEE MAINS

2023

•**JEE ADVANCED** Secured AIR 4515(OBC-NCL) in JEE ADVANCED

2023