

# Aditya Tiwari

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## Professional Summary

Software Engineering Intern candidate with hands-on experience building and shipping full-stack web applications and applied AI systems. Strong foundation in React, TypeScript, Python, and backend APIs, with practical exposure to computer vision and NLP in real-world deployments. Contributed to award-winning projects across healthcare, traffic intelligence, and public-sector digitization, translating problem statements into reliable, scalable software.

## Education

**Acropolis Institute of Technology and Research** – BTech in Computer Science and Information Technology 2023 – 2027

- CGPA: 7.08 | Relevant Coursework: Computer Networks, Database Management Systems, Data Structures and Algorithms, Operating System, OOP, Software Engineering and Artificial Intelligence

**Sarafa Vidya Niketan** – Class XII (83.4%) 2023

## Technical Skills

**Programming Languages:** C++, JavaScript, Python

**Frontend Technologies:** React.js, Next.js, Three.js, HTML5, CSS3,

**AI/ML & Tools:** Generative AI, Natural Language Processing, Computer Vision, YOLOv8, Prompt Engineering, Vapi SDK, Make.com

**Backend & APIs:** REST API, Node.js, Express.js, Database Design, SQL

**Cloud & DevOps:** AWS, Docker, CI/CD Pipeline, Git, GitHub

## Projects

**ASTITAVA and NyayaSetu – Forest Governance Digitization Platform** 2025

- Engineered dual-platform ecosystem for forest governance digitization, serving tribal communities and officials
- Implemented OCR and Named Entity Recognition (NER) to digitize documents into centralized FRA Atlas database
- Built Decision Support System (DSS) with WebGIS integration and analytics dashboard for policy makers

**HealthSaarthi – Unified Healthcare Ecosystem Platform (Hackathon Winner)** 2025

- Developed comprehensive healthcare platform connecting patients, doctors, hospitals, and government initiatives
- Integrated disease prediction using OpenCV and body form detection with YOLOv8 for preventive healthcare
- Implemented multi-lingual voice bot using Vapi SDK with Agentic AI for automated emergency alerts
- Engineered IoT integration using BLE for real-time health monitoring with React and Three.js frontend

## Rewards and Accolades

- Winner – AI Fusion Hackathon at Teh-o-tsav
- Winner – Eureka Idea Pitching Contest at IEEE
- 1st Runner Up – Innovik5.0 National Level Hackathon at Vikrant University
- 1st Runner Up - Mediverse Hackathon @Medicaps University
- SIH 2025 Finalist - Proposed solution directly to Education minister, featured at official Press Release of GoI
- Best Research Paper Award – NSSAFE 2025 and IEEE Ignite 2025
- Best Performance Award – Senior Bal Vigyan at Advanced Academy

## Research Publications

**K-dimensional Trees for Efficient Face Detection** | TechRxiv (Preprint) 2025

- Proposed optimized K-d tree approach reducing face detection time complexity from  $O(n)$  to  $O(\log n)$

**Integrating Renewable Energy into ASIC-based Crypto Mining** | ICI3-2024 Conference 2024

- Analyzed sustainable cryptocurrency mining through renewable energy integration with ASIC hardware systems

## Leadership & Activities

**Vice Chair**, IEEE Student Branch, AITR | Leading technical workshops and innovation initiatives for 200+ members

**International Service Director**, Rotaract Club of Acropolis Royals | Managing global collaboration projects