





# EKANSH AROHI

Department of Data Science & Artificial Intelligence  
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## EDUCATION

Degree/Board	Institution	Year	CGPA/%
B.Tech, DSAI	International Institute of Information Technology, Naya Raipur	2024 - Present	7.50/10
Class 12 (TSBIE)	Excellencia Junior College, Hyderabad	2021-2023	87.2%

## TECHNICAL SKILLS

**Languages:** C/C++, Embedded C, Python, JavaScript.

**Frameworks & Libraries:** HTML, CSS, NodeJS, ReactJS, NumPy, Pandas, OpenCV, Scikit-learn, TinyML, TensorFlow.

**Tools & Platforms:** Git, GitHub, VS Code, LaTeX, Arduino IDE, Raspberry Pi OS.

## PROJECTS

### Curalink - IOT based Smart Hospital Bed Management System



- Developed an IoT-based bed occupancy system using ESP8266 with RFID, MLX90614 temperature, and FSR sensors.
- Built a React.js dashboard with Firebase to display real-time bed status, role-based access, staff RFID verification, supervisor overrides, and historical data tracking.
- Implemented ML-powered patient flow predictions via Flask API and scikit-learn.
- Tech stack:** Python, Embedded C, React.js, Firebase, Flask, Scikit-learn, TailwindCSS, ESP8266, MLX90614, FSR, RFID.

### Car Rental Management System



- Designed and implemented a Python-based car rental system using OOP principles.
- Managed persistent data storage with SQLite for secure user authentication, fleet management, booking, and returns.
- Developed separate admin and customer modules featuring role-specific functionalities and terminal interface using Colorama.
- Implemented booking history tracking and real-time rental status updates for efficient fleet utilisation.
- Tech stack:** Python 3, SQLite3, Colorama, PyFiglet.

### Bike Guardian - Bicycle Safety Alert System



- Engineered a safety system for cyclists using ultrasonic sensors to detect vehicles approaching from behind.
- Developed C/C++ firmware for real-time sensor interfacing and alert mechanisms.
- Integrated visual and haptic alerts to warn riders and reduce accident risks in low visibility conditions.
- Tech stack:** Embedded C, Arduino.

### TinyML based Intrusion Detection System in EVs (Ongoing)

- Developed an on-device intrusion detection and battery health monitoring system for EVs using ESP32 and TFLite Micro.
- Implemented CAN signal analysis with XGBoost and quantised MLP models to detect anomalies and threats injected via EVSE or OTA through the CAN network with enhanced privacy, no latency, and no cloud dependency.
- Tech stack:** Python, TensorFlow Lite Micro, XGBoost, Scikit-learn, ESP32, CAN Bus.

## ACHIEVEMENTS

- State-Level Winner** in **INSPIRE Awards MANAK 2020**, organised by the National Innovation Foundation (NIF), Govt. of India, for the project - "**Footwear based Piezo-electric Generator**".
- Finalist** in National-level Hackathon - **Hardwired - Infotsav 2025**, organised by **ABV-IIITM Gwalior**, for the project - "**Curalink**".
- 100+ Competitive Programming problems solved on CodeForces.

## POSITIONS OF RESPONSIBILITY

### Design & Documentation club, IIIT-NR

Documentation Executive

September 2025 - Present

- Created official content including marketing materials, sponsorship brochures, and various event documentation for the SAC and college administration.

### IEEE Student Branch, IIIT-NR

Social Media & Content Executive

January 2025 - Present

- Managed Social Media presence and created content for IEEE Student Branch activities, events, and outreach initiatives.