# Aakash

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## Education

**Marwadi University, Rajkot** – B.Tech. Computer Science and Engineering   CGPA: 8.84 / 10   Expected 2026

## Experience

**Full Stack Developer**   June 2024 – August 2024

*LernTricks (Remote) [Certificate]*

- Led full-cycle development and launch of a web platform, streamlining admin workflows and increasing efficiency by **60%**.
- Designed scalable data models and authentication flows using **Mongoose**, **Node.js**, and **Express.js**, reducing server response time by **35%**.

**Research Intern**   May 2025 – Present

*IIEST, Shibpur*

- Engineered a lightweight, noise-robust algorithm for **audio fingerprint extraction**, achieving **98.78% accuracy** even under signal distortion.
- Validated algorithm on **3+ large-scale datasets**, demonstrating **98.7% deployability success** on resource-constrained hardware and supporting broad real-world adoption.

## Projects

**Fake Image Detection Model (DL+CNN)**   Sept 2024 – Jan 2025

- Developed a deep fake detection model with **CNNs**, achieving **94.78% accuracy** across varied resolutions.
- Enabled early detection of manipulated visuals, enhancing trust in digital content by **30%** in benchmark tests.
- Drafted a **conference paper** based on the system's novel architecture.

**Object Detection using XAI for Automated Vehicles**   Apr 2025 – Present

- Built an object detection system for autonomous vehicles, integrating **XAI techniques** to improve transparency in road hazard recognition.
- Implemented **Grad-CAM** and **SHAP** to visualize model decision areas, increasing interpretability for 90% of test scenarios.
- Targeted reducing edge-case misclassifications by **25%**, supporting safer deployment in real-world trials.

## Technical Skills

- **Machine Learning & AI**: Linear/Logistic Regression, Decision Trees, Random Forest, KNN, CNN, Transfer Learning, Hyperparameter Tuning, Feature Engineering, Model Evaluation
- **Deep Learning & Data Science**: TensorFlow, Keras, PyTorch (basic), Scikit-Learn, Pandas, NumPy, Matplotlib, Seaborn, OpenCV
- **Programming Languages**: Python, C++, Java, JavaScript, Go, Dart
- **Web & App Development**: MERN Stack (MongoDB, Express.js, React.js, Node.js), Next.js, Spring Boot, ASP.NET, React Native, Flutter
- **DevOps & Tools**: Docker, Vagrant, Postman, Git, GitHub, Google Colab, Kaggle, Tableau, Figma, Overleaf (LaTeX)

## Certifications

- **Database Programming with SQL** | **Oracle** | September 2023
- **NDG Linux Essentials** | **Cisco Networking Academy** | May 2024
- **AWS Academy Data Engineering** | **AWS Academy** | October 2024

## Achievements & Responsibilities

- **Atmiya University Hackathon:** Advanced to the final round from over 100+ teams by engineering a **full-stack application** with a team of four, demonstrating rapid prototyping and collaboration under pressure.
- **Postman X Marwadi University API Challenge:** Ranked **7th of 200+**, demonstrating advanced skills in **API design, integration**, and performance optimization.
- **GeekForGeeks X VULTR Hackathon:** Built and deployed an **AI-driven crop prediction model** on VULTR Cloud, ranked among the **top 20 teams nationwide** for innovative use of ML pipelines.
- **Technical Coordinator:** Spearheaded technical events and workshops during campus festivals, overseeing logistics and content for over 300 participants.
- **API Evangelist:** Conducted hands-on sessions on **Postman**, training peers ahead of the Postman X Marwadi University hackathon, enhancing campus API literacy.