

RIDHAM PATEL

ridhampatel2k4@gmail.com | +91 88491 55025 | [Github](#) | [Linkedin](#) | [Portfolio](#) | Ahmedabad, Gujarat

EDUCATION

LDRP Institute of Technology and Research, Gandhinagar

2022 – 2026

BE in Information Technology | CPI: 7.70

EXPERIENCE

OpenXcell Technolabs | Associate Software Engineer

Aug 2025 – Present

- Orchestrated a Microservices-based Real Estate OS in FastAPI, reducing system latency by 35% and improving fault tolerance across authentication and notification modules.
- Engineered an LLM Security Suite (Red/Blue team) using Nvidia Garak, mitigating 90%+ of prompt injection risks and ensuring PII compliance for client-facing AI.

IEEE EMBS Pune Chapter | AI/ML Intern

June 2025 - July 2025

- Built an end-to-end pipeline to process raw EEG data for Schizophrenia detection, handling signal filtering, data ingestion, and model validation.
- Evaluated performance across ResNet50, EfficientNetB2, and DenseNet121 to optimize the balance between high accuracy and low inference time.
- Reached a 96% classification accuracy by implementing an ensemble stacking approach, reducing prediction errors and improving model reliability.

Institute for Plasma Research | Software Development Intern

Aug 2024 - Nov 2024

- Modernized legacy quiz systems by migrating from static PowerPoint-based assessments to a Full-Stack interactive platform using Node.js and TypeScript.
- Engineered a real-time data analysis engine to track student performance, transforming raw quiz responses into actionable insights for educators.

PROJECTS

Face-Swap Deepfake Detection Platform | Smart India Hackathon Finalist 2024

Dec 2024

- Developed an end-to-end deepfake detection system for NTRO utilizing EfficientNet, InceptionNetV3, and Vision Transformers (ViT).
- Built a backend API with Node.js and PostgreSQL; experimented with Docker-based containerization and cloud deployment on AWS EC2.

Student Dropout Analysis Platform | Smart India Hackathon Finalist 2023

Dec 2023

- Architected a predictive engine using Logistic Regression and Random Forest classifiers to identify at-risk students with a focus on feature importance and interpretability.
- Engineered a Node.js backend to serve real-time predictions, transforming model outputs into actionable data visualizations via a React and Highcharts dashboard.

PUBLICATIONS & RESEARCH

FED-DETR: Privacy-Preserving Intelligent Traffic Enforcement | Research Paper

Under Review

- Developed a decentralized object detection pipeline using Federated Learning and DETR (Detection Transformer) for automated Helmet Detection for intelligent traffic monitoring.

Automated Waste Segregation Dustbin for Educational Institutions | Patent

Pending

- Designed and prototyped an IoT-enabled smart dustbin that integrates a lightweight computer vision model for real-time, automated waste classification.
- Filed for a patent covering the novel system design that combines embedded hardware and efficient ML model inference for edge computing.

ADDITIONAL

- **Certifications:** AWS Certified Cloud Practitioner (CLF-C02), NPTEL: Database Management System
- **Achievements:** 5x National Hackathon Finalist (SIH '23/'24, Odoo '25/'26); State Hackathon Winner SSIP 2023
- **Expertise:** Machine Learning, Microservices, RAG, LLM Integration, Object Detection, Computer Vision
- **Languages:** Python, C++, SQL, JavaScript, TypeScript
- **Tools & Tech:** FastAPI, Docker, Kubernetes, AWS, Git, Redis, PostgreSQL, MongoDB, Vector DBs
- **Leadership:** Student Event Organiser for State Level Event ERTE 2025 and University Level Hackathon ImpactThon 2025 sponsored by GUJCOST