

# HARDATTSINH MANGROLA

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## Professional Summary

Third-year Computer Science undergraduate with a minor in **Adaptive AI**, focused on building **scalable AI-driven systems**. Hands-on experience with **training and inference pipelines**, **ML models**, and **backend services**, supported by strong fundamentals in data structures, system design, APIs, databases, and production-quality code.

## Education

### Nirma University

Bachelor of Technology in Computer Science & Engineering (CSE), CGPA: **9.39**

July 2023 – June 2027

Ahmedabad, Gujarat

### Chanderbala Modi Academy

Higher Secondary Education (CBSE), Science Stream — Class XII: **93.00%**, Class X: **97.80%**

June 2020 – May 2022

Ankleshwar, Gujarat

## Technical Skills

**Programming Languages:** C, C++, JavaScript (ES6+), Node.js, Python, Java

**Backend Development:** Express.js, RESTful APIs, WebSockets, API Design

**Databases:** MySQL, PostgreSQL, MongoDB, Pinecone, Chroma

**Cloud & DevOps:** AWS, GCP, Docker, CI/CD fundamentals

**AI / LLM :** Pytorch, OpenCV, NLP, Computer Vision, RAG

**Tools & Practices:** Git, GitHub, Postman, Linux, Figma

## Projects

**Talk2DB** | *Flask, MySQL, LLMs, Google Gemini API*   GitHub

Mar 2025

- Built an **LLM-powered natural language to SQL system** supporting joins, aggregations, filters, and multilingual queries, reducing manual query effort by **80%**.
- Implemented **secure, scalable backend services** with JWT-based RBAC, SQL permission controls, and schema validation for enterprise-ready analytics.

**PixVerNet: Image Authenticity & Generation** | *Python, PyTorch, EfficientNetV2, Pix2Pix GAN*   GitHub   Oct 2024

- Developed an end-to-end **AI training and inference pipeline** combining an EfficientNetV2 classifier and Pix2Pix GAN for real vs AI image detection and paired generation.
- Trained on a **11 GB dataset** using AdamW and mixed precision, gaining experience with **compute-intensive workloads and scalable AI systems**.

**CaptionAI** | *FastAPI, Gemini API, React, Tailwind*   GitHub

Feb 2025

- Built a **low-latency AI content generation service** with FastAPI and multimodal inference, supporting multi-platform, multi-language outputs.
- Designed a **modular backend architecture** for concurrent requests and scalable deployment.

## Research Experience

**LLM-Driven Framework for Wireless Security Underlying uRLLC**

Dec 2024 – Sept 2025

Research Assistant — Nirma University, Ahmedabad

Developed an **LLM-driven real-time wireless security framework** for 5G uRLLC networks, achieving **95% threat detection accuracy** and published the results at **CCCI 2025 (International Conference on Communications, Computing, Cybersecurity, and Informatics)**.

## Awards & Certifications

- 2025 Finalist**, Odoo Hackathon, Gandhinagar
- 2025 Finalist**, Code for Good, JPMorgan Chase
- 2024 Contributor**, GirlScript Summer of Code
- 2024 Silver Medalist**, Nirma University

## Position of Responsibility

**Google Developer Group On Campus, Nirma University**

Sept 2025 – Present

CP/DSA Lead

Ahmedabad, India

**Computer Society of India, Nirma University**

Oct 2024 – Sept 2025

Executive Committee Member

Ahmedabad, India