

Nirmal Patel

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PROFILE

B.Sc. IT graduate and aspiring **AI/ML Engineer** with a strong foundation in **Python, Machine Learning, and Deep Learning**. Skilled in developing intelligent models, data preprocessing, and API integration. Passionate about applying AI to solve real-world problems with clean and efficient code.

SKILLS

Languages: Python, PHP, JavaScript, SQL

Frameworks & Libraries: Laravel, TensorFlow, Keras, NumPy, Pandas, Matplotlib, Scikit-learn

Machine Learning & Deep Learning Concepts: Data Preprocessing, EDA, Feature Engineering, Model Training & Evaluation, Hyperparameter Tuning, Supervised & Unsupervised Learning, ANN, CNN, RNN, LSTM, NLP, Transfer Learning.

Database: MySQL

Tools & Platforms: Git, VS Code, Jupyter Notebook, Postman, Hugging Face

EDUCATION

Ganpat University

Gujarat, India

B.sc. (CA & IT)

2022 – 2025

- CGPA : 7.97

M.sc. (CA & IT) - (Ongoing)

2025 – 2027

- Current CGPA : 8.6

EXPERIENCE

BM Coder - Backend Developer Intern

Jan 2025 – jun 2025

- As a Backend Developer Intern at BM Coder, I built and maintained dynamic web applications, crafting robust APIs and optimized database structures to deliver scalable, high-performance solutions. I resolved complex bugs in live projects, enhancing reliability and user satisfaction, and actively participated in code reviews to uphold best practices..

PROJECTS

CommentVision AI – YouTube Toxicity Analyze

Sep 2025 - Sep 2025 (Live Demo)

- Built and trained a **Bidirectional GRU multi-label classifier** (6 toxicity classes) on Jigsaw dataset with custom per-class thresholds for high recall on rare classes (threat, identity hate).
- Integrated YouTube Data API v3 + FastAPI to analyze 500 comments in <8s on CPU with responsive Chart.js dashboard.

CarDamageAnalysis AI – Multi-Stage Car Damage Assessment System

Aug 2025 - Aug 2025 (Live Demo)

- Built a 3-stage **EfficientNet-B3 + transfer learning** pipeline achieving 99.1% / 97.8% / 94.6% accuracy on car detection, damage classification, and severity grading using aggressive augmentation on **67k+ real-world images**.
- Deployed live web app that instantly analyzes any car photo or damaged part with confidence scores.

Used Car Value Estimator

Jul 2025 - Jul 2025 (Live Demo)

- Designed and trained a **Neural Network model** to estimate the **resale value of pre-owned cars** based on multiple attributes such as age, mileage, and brand.
- Optimized **data preprocessing and normalization techniques** for accurate price prediction on **large datasets**.
- Deployed the model using FastAPI and hosted on Huggingface using Python, TensorFlow, FastAPI, Pandas, NumPy, Hugging Face.