

PROFILE SUMMARY

Computer Science undergraduate (AI Specialization) building full-stack, ML-driven applications end to end — from data pipelines and model training to REST APIs and production interfaces — across Python, Django, Flask, React, and PostgreSQL; active open-source contributor.

EDUCATION

Bachelor of Engineering in Computer Science & Engineering (AI Specialization)

2024 – 2028

L.J. Institute of Engineering and Technology (LIET), Ahmedabad, Gujarat, India

Relevant Coursework: Data Structures & Algorithms, Database Management Systems, Machine Learning, Deep Learning, Natural Language Processing, Operating Systems, Object-Oriented Programming

TECHNICAL SKILLS

Programming Languages: Python, SQL, Java, JavaScript

Machine Learning & AI: Machine Learning, Deep Learning, Supervised and Unsupervised Learning, Feature Engineering, Optimization Algorithms, Scikit-learn, PyTorch

Frameworks & Libraries: Flask, FastAPI, Django and REST Framework (DRF), React.js, Node.js, REST APIs, HuggingFace Transformers

Databases: PostgreSQL, SQLite, MongoDB

Tools & Platforms: Git, GitHub, Jupyter Notebook, PgAdmin, Docker

Core Concepts: Data Structures & Algorithms (DSA), Database Management Systems (DBMS), Operating Systems, Object-Oriented Programming (OOP), Machine Learning, Deep Learning

KEY PROJECTS

Fair Share – Disaster Relief System

[GitHub](#)*Python, Flask, Scikit-learn, XGBoost, PostgreSQL, JavaScript, TomTom Maps API*

- Built a full-stack disaster relief web application integrating six ML and optimization modules — XGBoost demand forecasting, K-Means camp clustering, and Knapsack resource loading — to automate end-to-end aid distribution across multiple relief camps.
- Engineered an XGBoost regression model with lag features, rolling averages (3/5/7-day), and day-of-week inputs to forecast per-camp resource demand for food, water, and medicine; deployed on a 9-table PostgreSQL schema with 5 real-time monitoring views.
- Delivered role-based dashboards for three user types (Admin, Camp Manager, Driver) with a Critical/High/Medium/Low urgency scoring system and interactive TomTom Maps route visualization for live tracking.

THEMIS – AI-Powered Legal Compliance Checker

[GitHub](#)*Python, Django REST Framework, React.js, spaCy, HuggingFace Transformers, PyMuPDF, Scikit-learn*

- Built an AI-powered compliance engine that scans HR, data-privacy, and workplace-safety policy documents against a knowledge base of 16 Indian statutory requirements using entirely local ML models, with zero external API calls.
- Designed a multi-model hybrid retrieval pipeline (InLegal-SBERT, MiniLM, TF-IDF) combined with an NLI cross-encoder gate for entailment/contradiction classification and deterministic numeric rule validation.
- Implemented automated clause segmentation, GLiNER-based entity extraction, and a weighted 0–100 severity-scoring formula with evidence citations and downloadable PDF audit reports.

VendorBridge ERP – Procurement & Vendor Management (Team Project)

[GitHub](#)*Django 5, Django REST Framework, React 18, PostgreSQL, JWT, Tailwind CSS, Recharts*

- Contributed to a full-stack ERP application digitizing end-to-end procurement — vendor registration, RFQ, multi-step approval, purchase orders, and invoice management — across 4 roles (Admin, Officer, Approver, Vendor) with JWT-based authentication.
- Developed 9 REST API endpoints using Django REST Framework for structured data exchange between the React frontend and Django backend, covering vendors, RFQs, POs, and invoices.
- Integrated a Recharts analytics dashboard tracking monthly spend trends, category-based analysis, and vendor performance rankings, alongside automated PDF invoice generation and email dispatch.

CERTIFICATIONS & ACHIEVEMENTS

- Certifications** — Foundations: Data, Data, Everywhere (Google); Exploratory Data Analysis for Machine Learning (IBM), etc
- Open-Source Contributor** — GirlScript Summer of Code (GSSoC) contributor; resolved and contributed to open-source projects via GitHub pull requests.
- Full Profile, Coursework & Certifications:** linkedin.com/in/vrutik-hirani-6029113b0