Harsh Karekar

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EDUCATION

Vellore Institute of Technology, Bhopal **Sehore, Madhya Pradesh**
B.Tech - Electronics and Communications Engineering *2022 - 2026*
Cumulative GPA: 8.29/10

TECHNICAL SKILLS

Programming Languages: Python, Java, SQL
AI & Machine Learning: LLMs, Agentic AI, NLP, Tensorflow, XGBoost, Autoencoder, RAG workflows
Technologies: Git/Github, Docker, FastAPI, React.js, Node.js, Tailwind CSS

PROJECTS

FraudShield | Python, XGBoost, Autoencoders, TensorFlow/Keras, FastAPI, React

- Built and deployed a hybrid fraud detection system combining XGBoost classification and Autoencoder-based anomaly detection to identify both known and zero-day credit card fraud patterns.
- Tackled extreme class imbalance (0.17% fraud rate) by training the anomaly detection model exclusively on legitimate transactions, improving generalization to unseen fraud cases.
- Designed a Hybrid Risk Scoring mechanism integrating supervised probabilities and anomaly scores to generate final fraud predictions.
- Implemented an end-to-end ML pipeline with REST-based inference, enabling real-time, batch fraud analysis through a full-stack deployed web application.

PATLens – Placement Manager | Python, Gmail API, Google Sheets API, LLM(Ollama - Mistral)

- Built an AI-driven automation system to ingest unstructured campus placement emails from Gmail and extract structured placement data using LLM-based semantic parsing.
- Replaced brittle regex-based extraction with LLM + deterministic post-processing, enabling reliable handling of inconsistent, human-written email formats.
- Designed an incremental, append-only data pipeline to maintain an up-to-date Google Sheets tracker without overwriting historical records.
- Implemented a modular and automation-ready architecture, supporting scheduled execution and scalable extension for eligibility checks and analytics.

Trader Performance vs Bitcoin Market Sentiment | Python, Pandas, Scikit-learn, Streamlit

- Analyzed the relationship between Bitcoin Fear and Greed Index and real trader execution data from the Hyperliquid exchange to study sentiment-driven trading behavior and profitability.
- Conducted behavioral and regime-based analysis, identifying profitability patterns across Fear and Greed cycles, directional (BUY/SELL) biases, and sentiment-specialized trading wallets.
- Trained a Random Forest classification model using sentiment and trade features to predict trade-level profitability, demonstrating the predictability of trader performance under different market conditions.
- Developed an interactive Streamlit dashboard to visualize sentiment regimes, trader performance metrics, and model-driven profitability insights.

CERTIFICATIONS

- IBM Data Science Professional July 2025
- OCI 2025 Certified Generative AI Professional Oct 2025
- Gen Ai using Watsonx April 2025
- Artificical Intellingence Fundamentals Dec 2024

EXTRACURRICULAR

Technical Team Representative – Linux Club, VIT Bhopal **Feb 2024 – Apr 2024**

* Represented the technical team in organizing a competitive **CTF event** focused on Linux fundamentals, terminal navigation, and cybersecurity challenges, while managing event infrastructure for **150+ participants**.

Event Management Lead – Matrix, The Multimedia Club, VIT Bhopal **Jan 2025 – Jun 2025**

* Led the planning and execution of **2 major college-level multimedia events**, managing **500+ participants** and coordinating with **40+ cross-functional team members** to ensure smooth event operations.