

Prakhar Sharma

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SUMMARY

Final-year CS student specializing in Machine Learning and Generative AI, with hands-on experience in end-to-end ML pipelines, RAG systems, and predictive modelling using Python, XGBoost, and LLMs.

TECHNICAL SKILLS

Languages : Python, SQL, HTML/CSS, Dart

Frameworks & Libraries : Streamlit, SQLAlchemy, Flutter, Scikit-learn, Pandas, NumPy, Flask

AI/ML : RAG Pipelines, LLMs (GPT-4o Vision), ChromaDB, Speech-to-Text, TTS, XGBoost

Tools : Git, GitHub, Pydeck, SeleniumBase, Android Studio, Pickle

Databases : MySQL, PostgreSQL

PROJECTS

Real Estate Intelligence Platform

Python · XGBoost · ChromaDB · GPT-4o · Streamlit · PostgreSQL · SQLAlchemy · Pydeck · SeleniumBase 🌐 📱

- Engineered a custom Alpha Scoring Engine using haversine distance against 15 infrastructure drivers (metro, expressway, Jewar Airport) to generate investment ratings for every property
- Trained XGBoost regression models per property category — builder floors achieved **$R^2=0.74$ with $RMSE=751/sqft$** on a 20% holdout; societies and plots showed **$R^2=0.84$** and **$R^2=0.64$** respectively
- Built a RAG pipeline using ChromaDB and GPT-4o for property document Q&A achieving **1.00 faithfulness** and **0.79 answer relevancy** on a domain-specific eval set
- Delivered a Streamlit dashboard with a 3D investment heatmap, dynamic filters, deal scorer UI and CSV export, integrating ML predictions and RAG chat in a single platform

Visual Assistant for the Visually Impaired

Flutter · Dart · GPT-4o Vision API · Speech-to-Text · TTS 🌐 📱

- Built a **voice-first mobile accessibility app** enabling visually impaired users to point their camera at any scene, ask a question aloud, and receive a spoken answer in **under 4 seconds** — zero screen interaction required
- Implemented concurrent camera pre-capture + on-device speech recognition pipeline, cutting end-to-end latency by **40%** compared to sequential processing
- Engineered **hands-free activation** via custom Android EventChannel for hardware volume button interception, enabling fully no-touch operation for blind users

Diabetes Prediction System

Python · Flask · Scikit-learn · Pandas · NumPy · Pickle 🌐 📱

- Trained a Random Forest classifier on the Pima Indians Diabetes dataset achieving **76.6% cross-validated accuracy** with 5-fold CV
- Built a Flask REST API to serve real-time predictions with probability scores from 8 clinical input features
- Applied StandardScaler for feature normalization and Pickle for model serialization to ensure consistent inference
- Developed a modular ML pipeline covering data preprocessing, model training, and web deployment end-to-end

EDUCATION

Manipal University Jaipur

Bachelor of Technology in Computer Science and Engineering

2022 – 2026

Jaipur

CERTIFICATIONS

IBM RAG and Agentic AI : Professional Certificate (8 Course series) 2026