PRACHI ZALA

Software & Applied AI Developer | Python & Data Analytics Specialist

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PROFESSIONAL SUMMARY

High-performing BCA developer (CGPA 9.12) and 6× Hackathon Team Leader specializing in test-driven Python backends, GraphRAG generative AI systems, computer vision, and quantitative data analytics. Proven track record of captaining cross-functional teams to 2nd Place in the SIH 2026 Internal Hackathon and leading squads across national and global arenas (HACKCULT '26, Hackbriven, SOU). Focused on production-grade engineering with 35+ automated Pytest test suites, Docker Compose, and data-backed architectural decision making.

EDUCATION

Shanti Business School, Ahmedabad (GTU) | *Bachelor of Computer Applications (BCA)* **2024 – 2027**

CGPA: 9.12 / 10.0 | Coursework: Data Structures & Algorithms, DBMS (SQL), Python Programming, Software Engineering, Networks.

Satyam Vidhyalaya, Ahmedabad | *Higher Secondary (HSC) & Secondary (SSC)* **2020 – 2024**

12th Grade (HSC): 71% (2024) • 10th Grade (SSC): 70% (2022)

CORE TECHNICAL SKILLS

Languages: Python 3.11, SQL, TypeScript, JavaScript (ES6+), Java 8+, HTML5, CSS3

Backend & Systems: FastAPI, Flask, Node.js, Express, SQLAlchemy, RESTful APIs, Docker Compose, Pytest (35 Tests), Redis RQ, JWT, Argon2

AI, RAG & Data Science: GraphRAG, Neo4j (Cypher), PostgreSQL (pgvector), ChromaDB, OpenCV, Pandas, NumPy, Matplotlib, Seaborn, Jupyter, XGBoost, SHAP, Ollama

Mobile & Frontend: React Native (Expo), Next.js 14/15, React, Tailwind CSS, Android SDK (Java), PWA, Firebase (RTDB & Firestore)

Developer Tools: Git, GitHub Actions, Postman, Linux/Bash, VS Code, Test-Driven Development (TDD)

HACKATHON & LEADERSHIP TRACK RECORD (6× TEAM LEADER)

SIH 2026 Internal Hackathon | *Team Leader — Team CyberForge* **2nd Place (58 Marks) • 2026**

- Captained a 6-member engineering squad to 2nd position in the university-wide SIH selection round.

HACKCULT '26 Hackathon (IIT Gandhinagar × NxtWave) | *Team Leader — Team Believers* **March 2026**

- Led Team Believers to build Dharohar 4D, an interactive 3D monument digital twin platform with Three.js and WebXR AR.

Hackbriven National-Level Hackathon (Ahmedabad) | *Team Leader* **2026**

- Spearheaded technical sprint for Qoneqt-ContentOS, an automated content factory and publishing orchestration platform.

Silver Oak University (SOU) Mini Hackathon | *Team Leader* **2025**

- Captained team to build MathSprint, an anti-cheat multiplayer speed-math arena with server-authoritative scoring.

VORTEX 2K26 Global AI & VOYAGEHACK 4.0 Hackathons | *Team Leader — Team Eklavya* **2026**

- Directed cross-functional hackathon teams across global challenges, managing agentic AI workflows and rapid deployment.

FEATURED TECHNICAL PROJECTS

AI Smart Attendance System | *BCA 5th Sem Minor Project (Academic)* **2026**

Tech Stack: Python, FastAPI, OpenCV, React Native (Expo), SQLite, Docker Compose, Pytest, JWT, Haversine GPS

- **Geofenced Biometrics:** Architected dual-factor biometric verification combining Haversine GPS geofencing (100m perimeter) with OpenCV facial feature matching to eliminate proxy punches.
- **Testing & DevOps:** Engineered robust backend with 35 automated Pytest unit/integration tests; containerized with Docker Compose for seamless reproducible deployment.

Enterprise Knowledge Graph RAG Copilot | *Academic Project* **2026**

Tech Stack: Python, FastAPI, Neo4j (Cypher), PostgreSQL (pgvector), Ollama, Next.js 14, Reciprocal Rank Fusion (RRF)

- **Tri-Hybrid Retrieval:** Designed an enterprise GraphRAG copilot combining dense vector embeddings with Neo4j multi-hop graph reasoning using Reciprocal Rank Fusion (RRF).
- **Anti-Hallucination:** Eliminated hallucinations through strict source citation provenance; integrated local Ollama containers enabling zero-cost private LLM inference.

NoteIQ — Active Learning AI Notes Platform & Exam Studio | *Academic Project* **2026**

Tech Stack: FastAPI, Next.js 14, PostgreSQL (pgvector), Redis RQ, Web Audio API, Docker, Pytest

- **10 Active AI Tools:** Engineered 10 AI active learning innovations: NotebookLM-style two-host audio study podcast generator, interactive viva voce simulator, and 7-day spaced repetition planner.
- **Exam Intelligence:** Implemented university exam question predictor (2/5/10 marks), 1-page printable cheat sheet generator, and floating in-text highlight reader with pgvector hybrid search.

90-Day Workforce Attendance Analytics & ML Simulator | Academic Project **2026**

Tech Stack: Python, Scikit-Learn, XGBoost, Streamlit, Pandas, Seaborn, Altair, Statistical EDA

- Predictive ML Engine: Trained XGBoost classifier (ROC-AUC 0.908, 5-fold CV 0.882) forecasting severe late arrivals (>15m) using commute distance, Monday choke points, and department factors.
- Interactive Streamlit Simulator: Built executive HR policy simulator proving a 15-minute flexible grace window absorbs 67.8% of tardiness incidents across departments with live telemetry.

WeatherGPT & CricketIQ — Applied AI & Tactical Decision Engines | *Academic Projects* **2025 – 2026**

Tech Stack: Python, FastAPI, XGBoost, SHAP, ChromaDB, Next.js 16, React 19, TypeScript, PWA

- **Corridor Radar:** WeatherGPT: Built highway travel micro-climate corridor radar with waypoint timeline safety alerts, weather-adaptive ambient soundscapes, and offline PWA support.
- **Decision Engine:** CricketIQ: Engineered context-aware match simulator, Win Probability Added (WPA) turning point detector, IPL auction ROI optimizer, and SHAP explainability waterfall plots.

CERTIFICATIONS & PROFESSIONAL TRAINING

- Oracle Certified Associate: Agentic AI Foundations Associate (2026)
- Google Cloud: Introduction to Generative AI (2025)
- Infosys Springboard: Data Visualization with Tableau (2025)
- Akash Technolabs: Certified Android App Development Using Java (2024)
- Unlox: Generative AI Certification & UI/UX Design Internship (2024)