

JAY HEMNANI

jayhemnani992000@gmail.com | GitHub: github.com/jayhemnani9910 | jayhemnani.in
Gujarat, India (Open to Relocate)

Education

Pandit Deendayal Energy University (PDEU)

2018 – 2022 | Gandhinagar, India

B.Tech in Computer Engineering | GPA: 8.7/10

- **Coursework:** NLP, Neural Networks, Computer Vision, Big Data Analytics, Distributed Systems.
- **Publications:** 2 IEEE papers — Diabetes Prediction (Stacking Classifier, 10 citations), CPU Scheduling Analysis.

Technical Skills

Programming: Python, JavaScript/TypeScript, SQL, Java, Go

AI/LLM: LangChain, LangGraph, RAG Pipelines, Prompt Engineering, Agent Orchestration, Conversational AI

Backend & APIs: Node.js, Express, FastAPI, Flask, REST APIs, GraphQL, gRPC

Databases: PostgreSQL, MongoDB, Redis, TimescaleDB, Pinecone, ChromaDB, FAISS

Cloud & DevOps: AWS, Azure, Docker, Kubernetes, GitHub Actions, CI/CD, Kafka, Airflow

ML/Data: PyTorch, TensorFlow, Scikit-learn, Pandas, Hugging Face, MLflow, W&B

Experience

Data Analyst, Elite Hotel Group

Summer 2025 | San Jose, CA

- Engineered **automated ETL pipelines** using Python and SQL, reducing manual data preparation by **40%** across multi-property analytics.
- Built **interactive dashboards** in Tableau and Power BI for occupancy, revenue, and KPI tracking — presented insights directly to hotel management.

Technical Consultant, Small Businesses & Startups

2022 – 2024 | Remote

- Provided **end-to-end data and AI consulting** for early-stage businesses — built predictive models, reporting automation, and data infrastructure from scratch.
- Designed **A/B testing frameworks** and translated analytics into actionable recommendations for non-technical stakeholders.

AI/ML Intern, Amnax

Jan – May 2022 | Gujarat, India

- Built **credit fraud detection system** using ensemble ML (Random Forest, XGBoost, SMOTE), achieving **94% precision** on imbalanced transaction data.
- Developed **automated anomaly detection** pipelines with statistical models for operational reporting.

SWE Intern, Cactus Creatives

May – Nov 2019 | Gujarat, India

- Built **cloud-native backend** on Azure with microservices architecture and REST APIs; configured **CI/CD pipelines** reducing deployment time by **60%**.

Projects

CAG Deep Research — Multi-Agent AI System | Python, LangGraph, LangChain, Pydantic, Ollama

- Built **production multi-agent system** orchestrating 5+ AI agents (search, analysis, verification, synthesis) with LangGraph state machines and structured prompt chains.
- Local LLM support (Llama 3, Mistral) with cloud fallback — **~70% cost reduction**. Full pipeline: raw query to 20-page report in under 15 minutes. **Built in 10 days**.

Kayak — Distributed Travel Metasearch | Node.js, MySQL, MongoDB, Redis, Kafka, Docker, LangChain

- Built **3-tier distributed system**: API Gateway with JWT auth + rate limiting, microservices (User, Search, Booking), Kafka event streaming.
- Sub-100ms search via Redis caching. **AI-powered recommendations** using LangChain agents. MySQL for OLTP, MongoDB for analytics.

Stock Data Platform | Python, Kafka, Airflow, TimescaleDB, Dash, Docker

- Built **unified market data warehouse**: 10 tickers, 25 years, 4 data sources. 18 Airflow DAGs, 8-table star schema, 7 Docker services.
- Interactive Dash dashboards with real-time indicators. Fully containerized — single-command deployment.

FIFA Soccer DS — CV Pipeline with MLOps | Python, YOLOv8, PyTorch Geometric, FastAPI, MLflow

- Multi-model CV pipeline achieving **22 FPS** real-time inference, **95.2% precision**. 7-stage DVC pipeline, 50+ MLflow experiments, FastAPI REST service.

Open Source Contributions

MCP Python SDK (Anthropic) — Merged PR: added explicit type annotation for `call_tool` decorator.

vLLM — Merged PR: enabled LoRA support for tower and connector modules in LLaVA vision-language model.

Google A2UI — Merged PR: added `.env.example` templates for safer secret management across services.

Additional

Languages: English, Hindi, Gujarati

Interests: Rubik's Cube Speedcubing (16.7s, WCA certified), Chess, Table Tennis, Graphic Design