Akshat Chowdhary

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Summary

AI Systems Engineer focused on building agentic AI applications, scalable backend services, and LLM-powered platforms. Experienced in designing graph execution engines, offline AI assistants, and real-time voice systems using FastAPI, PostgreSQL, Docker, PyTorch, and modern GenAI frameworks. Passionate about building reliable AI infrastructure and intelligent products.

Technical Skills

Languages: Python, Java, C, SQL, JavaScript, TypeScript, HTML/CSS
ML / AI Frameworks: PyTorch, TensorFlow, Scikit-learn, XGBoost, HuggingFace, LangChain, LangGraph
Databases & Storage: PostgreSQL, MongoDB, SQLite, ChromaDB, Pinecone
Backend & DevOps: Node.js, FastAPI, Docker, Docker Compose, Apache Kafka, Git, Postman, GCP
Frontend & Web: Next.js, React, Tailwind CSS, Vite, REST APIs

Education

University School of Information and Communication Technology (USICT) May 2024 – May 2028
B.Tech in Computer Science | CGPA: 8.35 / 10.0 *New Delhi, India*

The Air Force School, Subroto Park Mar 2024
Senior Secondary (Class XII) | 87.8% | Class X: 95.6% *New Delhi, India*

Professional Experience

AI Analyst | *PyVision Technologies (Client: Turing) | Google Colab, BQML* Sept 2025 – Dec 2025

- Authored **10+ structured Reinforcement Learning (RL) notebooks** in Google Colab to evaluate LLMs via task-based learning pipelines and graded reward schemas for a US client.
- Standardized team evaluation frameworks by modularizing system prompts, step-wise outputs, and task definitions.

Freelance Frontend Developer | *React, Next.js, Tailwind CSS, Vite* | Live June 2026 – Present

- Engineered and deployed an interactive web application for a digital magazine client, ensuring mobile responsiveness, modern UI accessibility, and fast load speeds which had across **200+ users**.
- Translated UI/UX wireframes into modular React components and dynamic layout systems for publication content.

Projects

Mesh: AI Agent Marketplace | *Next.js, FastAPI, PostgreSQL, E2B Sandbox, Docker* | Live | Demo Jan 2026 – Present

- Architected an node-style canvas marketplace for deploying multi-node AI workflows with automated worker queue handling to eliminate thread starvation.
- Engineered a topological graph execution engine featuring cycle detection, branch pruning, and real-time node-level state tracking.
- Integrated E2B isolated code sandboxes for secure tool execution, dynamic user budget controls, and Caddy reverse proxy SSL termination; onboarded **30+ organic signups**.

ASTRA: Offline Local LLM Voice Assistant | *LLaMA-3.2, Vosk, SQLite, PyTorch* | GitHub Oct 2025 – Present

- Built a Jarvis-inspired voice assistant operating offline via process-isolated dual LLM inference (3B resident model + 8B lazy-loaded fallback) and SQLite state persistence.
- Integrated offline speech recognition (Vosk), local document search, and an intent classification engine driving 35+ automated system controls.
- Developed real-time screen OCR analysis and multi-turn conversation tracking, guaranteeing complete local privacy with zero data egress.

Voice AI Agent | *FastAPI, Whisper, Vapi, Groq API, Docker* | GitHub | Demo June 2025

- Engineered a real-time conversational Voice AI agent integrating Whisper transcription, Groq-powered LLM reasoning, and TTS into an asynchronous pipeline reducing latency to < 1.5s.
- Containerized application using Docker with dynamic tool routing and modular backend adapters for seamless LLM provider swapping.

Achievements & Certifications

Smart India Hackathon (SIH) – Internal Round Winner Sept 2024
USICT, Dwarka | Ranked 1st among 105 competing teams in university selection round

Agentic AI – LangGraph & LangChain Bootcamp July 2025
Udemy / Krish Naik | Credential

Machine Learning Specialization Nov 2024
DeepLearning.AI / Stanford University | Credential