

# Ayush Srivastava

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## Summary

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Versatile AI Engineer experienced in building **scalable GenAI systems**, integrating **agentic workflows**, and deploying **production-ready AI applications**. Skilled in **LangGraph**, **LangChain**, **RAG pipelines**, **vector DBs (pgvector/FAISS)**, and traditional ML — blending structured + unstructured data for business impact.

## Education

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**JSS Academy of Technical Education**, Bengaluru, India – B.E. Information Science July 2019 – June 2023

- GPA: 8.7 / 10
- Relevant Coursework: Data Structures, Algorithms, AIML, Software Engineering, OOPs, DBMS, OS

## Experience

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**R&D Engineer**, Synopsys Inc – Hyderabad, India Feb 2025 – Present

- Built intelligent **AI agents** to query and process **6M+ JSON records**, enabling faster retrieval of Generic Cell Characteristics.
- Designed **Astra Agent** for automated log parsing and querying, boosting workflow efficiency by **30%**.
- Automated IO validation pipelines in Python — cutting manual effort by **25%**.

**Software Engineering Consultant**, Mercedes-Benz R&D India – Bengaluru, India Aug 2023 – Feb 2025

- Developed **Codewhiz**, a low-code GenAI assistant using **RAG** to generate ABAP code and test cases — reduced dev time by **30%**.
- Built a full-stack GenAI prototype with **FastAPI (backend)** and **Streamlit (UI)**.

## Projects

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**Refund Fraud Detection (AI-Powered)** Repo | Demo

- Built an **end-to-end fraud detection pipeline** with **LangGraph orchestration**, combining ML anomaly detection and LLM reasoning.
- Integrated **Groq-hosted LLaMA-3 models** + **FAISS vector DB** to identify historically similar fraud claims.
- Designed a **hybrid ML+LLM decision engine** (structured + embeddings) — reduced false negatives by **30%**.
- Deployed a cloud-hosted **Streamlit dashboard** for real-time fraud analysis and explainability.

**OLLAMAOS: Modular LLM OS** Repo

- Designed a modular **multi-agent AI system** powered by Ollama and Phi, with assistants for Python, finance, research, and shell.
- Enabled hybrid LLM backends (Ollama/OpenAI), PDF ingestion, and RAG-powered Q&A using **pgvector** + **PostgreSQL**.
- Built tool integrations (DuckDuckGo, file I/O, yfinance, shell) — simulating a full-featured AI OS.

## Technologies

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**Tech:** LangGraph, LangChain, FAISS, pgvector, RAG, Agentic AI, Prompt Orchestration, LLMOps, FastAPI, Streamlit, MCP, QDrant, ElasticSearch, Docker, CI/CD, Azure, AWS

**Languages:** Python, C++