NAGA JYOTHI K

GenAI Engineering | LLMs, RAG, LangChain, LangGraph, LangSmith Ollama, MCP | Chatbots, Applied Language Models, Knowledge Retrieval, Document QA

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🧩 PROFESSIONAL SUMMARY

I'm a Python Developer and Generative AI specialist with a proven track record of building intelligent, real-world applications powered by large language models. I help businesses and startups design, develop, and deploy custom AI solutions using cutting-edge tools like LangChain, LangGraph, LangSmith, and models from OpenAI and Claude. My expertise includes developing advanced RAG pipelines, deploying local models with Ollama, integrating with MCP servers, and crafting dynamic user interfaces using Streamlit. I also build Agentic AI systems that automate complex workflows through reasoning-driven agents. From smart chatbots to document Q&A systems and enterprise-ready AI assistants, I deliver solutions that are fast, scalable, and aligned with your goals. If you're looking to turn your GenAI idea into a powerful, production-ready application—let's build it together.

💼 PROFESSIONAL EXPERIENCE

Softforce Consultants Pvt. Ltd.   01/2025 – 06/2025
AI Intern / Junior Python Developer   Hyderabad

Worked on a production-level Generative AI project and multiple POCs using LangChain, LangGraph, LangSmith, OpenAI, and Claude. Built RAG pipelines, developed Agentic AI systems, and deployed models using Ollama with MCP server integration. Created interactive AI dashboards in Streamlit, integrated with REST APIs, and wrote clean, scalable Python code in a collaborative team environment, resulting in faster model iterations and accelerated GenAI feature delivery.

Conduent   06/2018 – 08/2019
Transaction Processor   Visakhapatnam
Handled mortgage and banking documentation for clients like Ally Bank and Semperian ODM.
Ensured regulatory compliance and accuracy in financial data entry and audit management.
Worked with internal tools for processing, validation, and resolving transactional discrepancies.

📁 PROJECTS

AI-Powered Dynamic PDF Generator with Chatbot Interface (initial Project)
Python, LangChain, Ollama, MCP Server, LLMs (OpenAI), PyPDF2, Streamlit,
Secure File Handling
Built an intelligent chatbot that generates personalized PDF documents by extracting user inputs and populating dynamic fields in pre-defined template PDFs stored locally. The system was orchestrated through a pipeline of LLMs, Ollama agents, and MCP server integration, enabling seamless document automation.
- User selects a PDF category (e.g., invoice, PaySlips, Corcern Letter, Joining Letter).
- The request is passed through a LangChain-based LLM, invoking an **Ollama agent.**
- The Ollama agent integrates with the MCP server to fetch the corresponding template PDF.
- The LLM dynamically generates input fields based on the selected template and collects user responses.
- User data is injected into the PDF template, and a new personalized PDF is generated in real-time.
- The edited document is made available for download, and securely deleted from memory post-download.

Intelligent Document Automation with LLMs
PyPDF2, ReportLab, LangChain, Ollama, Streamlit, FastAPI
Developed an end-to-end system that extracts placeholders from templates (invoices, offers, payslips) and generates dynamic, filled PDFs.
- Extracted {{placeholders}} from PDFs using PyPDF2 + LangChain prompt parsing.
- Generated input forms dynamically via Streamlit and rendered real-time previews.
- Populated final documents using ReportLab and served them for download.
- Powered by local LLM inference for high-speed and privacy-friendly document parsing.

Agent-Based Task Automation using LangGraph
Python, LangGraph, LangChain, Streamlit, OpenAI
Developed a modular, agent-driven automation framework leveraging LangGraph for orchestrating complex task flows.
- Built a flexible agent architecture to support sequential and parallel decision-making workflows.
- Implemented multi-agent coordination using LangGraph for managing task state, branching, and execution paths.
- Integrated LangChain tools, memory, and prompt templates to enable context-aware decision logic and long-term reasoning.
- Designed and deployed a Streamlit-based interface for real-time user interaction and output monitoring.

Knowledge Retrieval Assistant with LangChain
Python, LangChain, TavilySearchResults, Streamlit, OpenAI GPT-4o-mini
Built a real-time knowledge assistant capable of retrieving up-to-date information using search tools and LLMs.
- Integrated TavilySearch with ChatOpenAI to enable real-time web-based question answering.
- Designed and managed agent workflows to coordinate search, retrieval, and response generation.
- Handled prompt logic, tool invocation, and error handling to ensure stable, reliable outputs.
- Developed an intuitive Streamlit UI for interactive querying and testing.

🧠 SKILLS

Programming & Scripting — Python (core language for automation, API handling, GenAI apps)

Frameworks & Libraries — **LangChain**, **LangGraph** – LLM orchestration, agent workflows, retrieval chains • **Streamlit** – UI development for GenAI tools and assistants • **FastAPI** – API development and model serving • **ReportLab**, **PyPDF2** – PDF generation, placeholder parsing and automation • **Pandas** – Data transformation and manipulation • **schedule** – Lightweight job scheduler

Generative AI & LLMs — OpenAI GPT-4o-mini, LLaMA 3 (via Ollama) • Agent-based Systems, Tool Calling, Prompt Engineering • Retrieval-Augmented Generation (RAG)

Search & Retrieval — **TavilySearchResults** – Real-time search integration • **ChromaDB** – Local vector store for document embeddings and retrieval

Databases — **SQLite**, **PostgreSQL** – Relational data storage

APIs & Web — **REST APIs** – Data fetching from public APIs (e.g., OpenWeatherMap) • API integration with OpenAI, Tavily, Ollama

Tools & Platforms — **Ollama** – Local LLM inference • Git, GitHub • Postman (for API testing)

Integration — MCP server (stdio, SSE Mechanisms)

📑 CERTIFICATES

chatGPT for Everyone — Learn Prompting

Prompt Engineering with chatGPT — LinkedIn Learnings

Scientific Computing with Python — freeCodeCamp

Python for Everybody — freeCodeCamp

LangChain for LLM Application Development — DeepLearning.AI (In Progress)

🎓 EDUCATION

Bachelor of Science in Computer Science   2017
Andhra University   Visakhapatnam