S. Abhijit Rao

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Executive Summary

AI Engineer with production expertise in Retrieval-Augmented Generation (RAG) systems and multi-agent workflows, delivering measurable automation impact across multiple organizations. Reduced manual file search time at Nuevosol Energy through intelligent Agentic RAG chatbot and streamlined video editing workflows at Prodigal AI, earning Intern of the Month (April 2025). Specialized in LangChain/LangGraph frameworks, vector databases, and backend AI development with proven ability to architect and deploy production systems. Currently building enterprise AI solutions as a freelance engineer, bringing hands-on experience in agentic AI, LLM orchestration, and modern AI infrastructure.

Professional Experience

Nuevosol Energy Pvt Ltd   Nov 2025 – Dec 2025
AI Intern   *Head office Madhapur, Hyderabad, India*
- Engineered enterprise Agentic RAG chatbot enabling team members to query internal documentation through natural language, dramatically reducing information retrieval time and improving operational efficiency.
- Architected multi-agent retrieval system using LangGraph orchestration, OpenAI LLMs, and ChromaDB vector database, implementing semantic search across company knowledge base
- Deployed full-stack solution with Next.js frontend (Vercel) and FastAPI backend (Render), delivering production-ready chat interface with real-time response capabilities

Prodigal AI   Feb 2025 – June 2025
Agentic AI Intern   *Remote, India*
- Worked on **Dhanur AI**, a cutting-edge video editing automation platform by Prodigal AI that transforms raw user video into polished YouTube/Shorts-ready content using **Langchain framework**.
- Implemented **Retrieval-Augmented Generation** (RAG) pipelines integrated with **vector databases** for intelligent context retrieval of b-roll , filters and transition segmentation using **ChromaDB**.
- Reduced manual editing time significantly through intelligent automation, enhancing creator productivity.
- Awarded **Intern of the Month** in April 2025 for exceptional performance and innovation.

Astraveda   Jan 2026 – Present
Freelanced as a AI Engineer   *Remote*
- Architected and deployed production-ready website and web application, maintaining full ownership of development, infrastructure, and hosting operations for enterprise petroleum analytics platform.
- Engineered full-stack solution leveraging Next.js, Tailwind CSS, Shadcn UI, FastAPI, PostgreSQL, LangChain, and LangGraph to deliver scalable AI-powered features across client-facing and internal systems
- Accelerated development velocity using Claude Code, Google Gemini, Google Flow alongside AWS Amplify, AWS Lambda, Supabase, Groq, and Mistral AI for robust cloud infrastructure and LLM orchestration.
- Delivered two core AI capabilities: "Ask Astra" multi-agent conversational chatbot and "Click Astra" OCR solution for automated document processing.
- Production Link : website - **www.petro-astra.in** , App : **app.petro-astra.in**

Projects

Multi-Agent Financial Chatbot System | ⓖ Github Link
- Developed a modular multi-agent system using open-source **LLMs (LLaMA 3.1, DeepSeek)** with the **Phidata framework**, orchestrated via **Groq inference APIs** for high-performance response times.
- Engineered a finance-focused **chatbot** capable of real-time stock data retrieval, web summarization, and analytics by integrating specialized agents **(Finance Agent, Web Agent)** using tools like **YFinance**, **DuckDuckGo**, and custom utilities.

Natural Language → SQL Agent | ⓖ Github Link
- A natural-language → SQL conversational agent using **LangGraph** and an LLM to generate syntactically-correct SQL from plain-English questions and execute them against a local SQLite database.
- Implemented a 3-node graph (write query → execute query → generate answer), plus a Streamlit UI that shows generated SQL and raw results.

Technical Skills

Languages: Python, SQL,Java, C++, Node.js.

Technologies/Frameworks: LangChain, LangGraph,Langsmith, Phidata, FastAPI, , Streamlit, Scikit-Learn,React, Express.js, TensorFlow, OpenAI APIs, ChromaDB , hugging face.
Concepts: Retrieval-Augmented Generation (RAG), API development, model evaluation, version control (Git), data preprocessing, debugging using langsmith, multi agent workflows using LangGraph ,software testing, SDLC.

Operating System: Mac Os, Linux, Windows.

Soft skills: Collaborative Teamwork, Adaptability, Creativity, Problem solving.

Education

Mahindra University   **August 2021 - June 2025**
Bachelor of Technology in Artificial Intelligence - CGPA of 6.98   *Hyderabad, India*
Relevant coursework : Data Structures, Object-Oriented Programming, Machine Learning, Cloud Computing.