Lalitha Samyuktha Jayanthi

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Value Proposition

Data Science graduate with passion for AI/ML, specializing in NLP and Generative AI. Eager to design, develop, and optimize NLP-driven solutions using LLMs, RAG pipelines, and agentic workflows. Seeking to leverage academic projects in intelligent applications to contribute to enterprise-level AI solutions in electrification, energy, or industrial domains.

Education

- B. Tech | CSE-Data Science | Avanthi Institute of Engineering and Technology | 2025 | 7.88 CGPA
- Intermediate | Sri Chaitanya Jr. College | 2021 | 9.12 CGPA
- Tenth | Sri Chaitanya School | 2019 | 9.5 CGPA

Technical Proficiencies

- **Programming & Frameworks:** Python, SQL, PySpark; LangChain, Hugging Face Transformers, LlamaIndex, Smol Agents
- **AI/ML Technologies:** NLP (NER, embeddings, summarization), Generative AI, LLMs (OpenAI, Anthropic, Falcon, LLaMA), Fine-tuning (LoRA, PEFT), RAG Pipelines, Agentic Workflows, Multi-step Agent Architectures
- **Cloud & DevOps:** Azure OpenAI Service, Azure ML Studio, Azure AI Foundry, AWS SageMaker, AWS Bedrock; Infrastructure-as-Code (Terraform), ML Observability
- **Other:** Vector Search, Function Calling, LangGraph, Real-time NLP (Streaming, Latency Optimization), Explainability Features, Performance Monitoring

Projects

1. **RAG-Based Intelligent Search Engine for Domain-Specific Queries**
- Designed and productionized a RAG pipeline using LangChain and Hugging Face embeddings to enable context-aware retrieval from large datasets, improving query accuracy by 40%.
- Fine-tuned LLaMA-2 model with LoRA for summarization tasks, integrating vector search with Pinecone for efficient embeddings handling.
- **Tech Stack:** Python, LangChain, Hugging Face, Azure OpenAI Service, Terraform for infrastructure.

2. **NLP-Driven Sentiment Analysis Agent for Industrial Data**
- Built and deployed an agentic workflow using Smol Agents and Anthropic models to analyze multi-step dialogues in energy sector datasets, achieving 85% accuracy in NER and sentiment classification.
- Integrated third-party APIs (OpenAI) with custom function calling via LangGraph for orchestration, ensuring traceability and maintainability in production-like settings.
- **Tech Stack:** Python, Transformers Library, AWS Bedrock, PySpark for data processing.

3. **Generative AI Chatbot for Multi-Turn Conversations**
- Developed a scalable chatbot using Falcon LLM with prompt-engineering and PEFT fine-tuning for domain-specific use cases in industrial AI, handling streaming inputs with optimized latency.
- Collaborated virtually with a team to integrate into a backend system, using AWS SageMaker for deployment and monitoring model performance in real-time.
- Added explainability layers to trace decisions, resulting in a 30% improvement in response relevance for energy-related queries.
- **Tech Stack:** Python, LlamaIndex, Azure AI Foundry, DevOps tools for AI pipelines.

Internships & Simulations

- AI Intern – AIMER Society | 8 Weeks
- ML Intern – Indian Servers | 8 Weeks
- Data Science Intern – Yhills | 8 Weeks
- Data Science Intern – Prodigy | 4 Weeks
- Job Simulation – TCS | Forage Plat form

Certifications

- Microsoft Azure AI
- Hugging Face NLP Course
- Google Cloud Gen AI
- Data Analytics by Jobaaj Learnings.
- SQL by Oracle.
- Java by Oracle.

Professional Attributes

- Languages: English, Hindi, Telugu

- Interests: Big Data Technologies, Cloud Computing, Continuous Learning in AI/ML