KAMAL SAI TILLARI

📞 +91 6300851991   ✉ tillarikamalsai@gmail.com

in linkedin.com/in/kamalsai

Work Experience

Generative AI Intern   June 2024 − July 2024

Technical Hub, Kakinada, India

- Designed and deployed multi-agent RAG pipeline using LangChain, FAISS, and ChromaDB, achieving 30% improvement in retrieval speed and 25% increase in contextual response accuracy.
- Optimized LLM performance through LoRA and QLoRA fine-tuning techniques, reducing computational costs by 40% while maintaining 95%+ accuracy on domain-specific tasks.
- Implemented agentic workflows for automated question-answering and summarization systems, improving task coordination and execution.

Education

Aditya Engineering College, Kakinada, India   August 2022 − Present

Bachelor of Technology in Artificial Intelligence and Machine Learning   **CGPA: 8.31/10.0**

Projects

Research Assistant   July 2025 − Aug 2025

- Delivered using a dual-backend architecture (LangGraph + Flask) with intelligent error handling.
- Boosted the development efficiency through modular tool integration for web search and mathematical computations.
- Automated environment setup with 10+ Python dependencies and secured API key handling.
- Enhanced user experience with persistent conversation memory and real-time typing indicators.

Movie Recommendation System (CREWAI)   Oct 2024 − Nov 2024

- Created a personalized movie recommendation platform leveraging multi-agent AI workflows (CrewAI + Gemini API) and Flask backend, ensuring scalable, modular design with strong error handling.
- Boosted response speed by 60% through modular integration of Google Gemini LLMs, CrewAI agents, and responsive React-based UI, enabling seamless real-time interactions.
- Applied rigorous error handling, prompt engineering, and system testing to improve recommendation accuracy, robustness, and user satisfaction.

Agentic MCP RAG Assistant   May 2025 − Jun 2025

- Developed an AI-powered agriculture advisory system leveraging AutoGen multi-agent workflows, MCP integration, and Gemini API, enabling intelligent and context-aware recommendations for farmers.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline to combine structured crop, soil, and climate datasets with real-time reasoning, ensuring accurate and data-driven insights.
- Optimized scalability and modularity by designing a Flask backend with structured error handling, while enabling seamless real-time user interaction through a React-based UI.
- Enhanced recommendation accuracy and robustness via prompt engineering, systematic testing, and integration of environmental context, improving reliability and user trust.

Deepseek AI Code Companion   Feb 2024 − Mar 2024

- Designed code companion using DeepSeek LLM, achieving a ∼40% reduction in time spent on repetitive coding tasks through intelligent code generation, debugging, and explanation features.

- Enhanced developer productivity by automating debugging workflows and code explanations, resulting in a ~25% faster error resolution rate across diverse programming languages.
- Reduced debugging time by 25% through AI suggestions.

Technical Skills

Agentic AI: Multi-agent workflows, LangGraph, AutoGen, Autogen Studio, CrewAI

LLMs & APIs: GPT-4, Claude, Gemini, LLaMA, Mistral, Function/Tool Calling

Frameworks: LangChain, LangChain Expression Language (LCEL), Transformers, TensorFlow, Py-Torch

Database: FAISS, ChromaDB, Pinecone, VectorDB, Long-term Memory, Context Management

Tuning: LoRA, QLoRA, PEFT, Prompt Engineering, Prompt Chaining

Deployment: Docker, Streamlit

Tools: Python, Git, GitHub Actions, API Integration

Certifications

Machine Learning (IIT Madras)
Deep Learning with TensorFlow (EdX)
Deep Learning with Keras (EdX)
Oracle Generative AI Certified Professional
Java Programming Fundamentals (EdX)
Machine Learning with Python (EDX)
Dell Technologies GEN AI Professional
Oracle MySQL 8.0 Database Developer (Oracle)