

# KRISHNASAI ADDALA

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[LinkedIn](#) | [GitHub](#) | [Google Scholar](#)

## SUMMARY

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AI/ML Engineer experienced in designing, deploying, and evaluating production AI systems across LLMs, NLP, and machine learning. Passionate about building reliable, scalable, and interpretable AI solutions spanning agentic workflows, model evaluation, and MLOps.

## EXPERIENCE

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### Self-Employed

*AI / ML Researcher - (Domain: Technical Research (Model Interpretability, Opinion dynamic modelling))* Dec 2025 – Present

- Ideated and built AI products centered on agentic systems, LLM evaluation frameworks, and model explainability from concept to implementation.
- Engineered simulation and benchmarking frameworks for opinion dynamics modelling, tool calling, and multi-step reasoning in small language models.

### Capgemini

*New York City, NY*

*Associate Consultant - GenAI Developer (Domain: Financial Sector)*

*Jun 2025 – Nov 2025*

- Built and productionized LLM-powered APIs using LangGraph, OpenAI APIs, and NLP techniques, designing end-to-end workflows for retrieval, validation, orchestration, and monitoring to improve regulatory compliance, customer intelligence, and model reliability using MCP integrations for multimodal data ingestion.
- Engineered scalable ML infrastructure on GCP using Airflow, BigQuery, Pub/Sub, and Cloud Functions, developing real-time data pipelines and automating model deployment, versioning, and orchestration across development, staging, and production environments.

### Project Geminae - MSBA Capstone

*Pittsburgh, PA*

*Machine Learning Engineer (Domain: Energy Sector)*

*Jan 2025 – Apr 2025*

- Designed and Built predictive ML models for oil-well selection, leveraging feature engineering, leakage prevention, and model optimization to improve predictive accuracy.
- Applied SHAP explainability to identify key productivity drivers, enabling interpretable predictions and data-driven engineering decisions.

### MIDAS Lab - IIIT Delhi

*New Delhi, India*

*Undergraduate Researcher (Domain: Education)*

*Jun 2023 – May 2024*

- Designed and Built a knowledge graph-augmented LLM system for physics question answering, achieving ~200% improvement over baseline and contributing to three published papers.
- Designed and developed LLM evaluation and benchmarking pipelines across retrieval, reasoning, answer quality, and structured outputs, while implementing prompt optimization, LoRA/PEFT fine-tuning, and RLHF-informed evaluation methodologies, driving cross-functional development across retrieval, modeling, and data pipelines.

## TECHNICAL SKILLS

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**Languages:** Python, TypeScript, JavaScript, SQL, R, Java, Bash, ReactJS, HTML

**GenAI/Agentic Dev:** LangChain, LangGraph, Google ADK, OpenAI API, HuggingFace Transformers, Function Calling, Structured Outputs, Prompt Optimization, AI Agents (Harnesses), RAG, Vector DBs (Chroma, FAISS), Agentic workflows, Tool use, Memory, Planning, LoRA, Fine-Tuning, PEFT, RLHF, MCP, Ollama

**ML:** PyTorch, TensorFlow, Scikit-learn, XGBoost, LightGBM, CUDA, JAX, SHAP, LIME, DiCE, Keras, OpenCV

**Cloud/Infrastructure:** GCP (BigQuery, Pub/Sub, Cloud Functions, Vertex AI, Airflow), AWS, Docker, Kubernetes, MLflow, SpringBoot, LangSmith

**Backend & APIs:** FastAPI, Flask, REST APIs, Streamlit, SSE Streaming, Postman

**Data:** Pandas, NumPy, Spark, Databricks, PostgreSQL, MongoDB, Neo4j, Power BI, Tableau, D3.js

## EDUCATION

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- Carnegie Mellon University | M.S. in Business Analytics (MSBA) | Pittsburgh, PA | May '25
- Indraprastha Institute of Information Technology Delhi (IIIT-Delhi) | Delhi, India | B.Tech. in Computer Science | May '24

## PUBLICATIONS

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- Knowledge Graphs are all you need: Leveraging KGs in Physics Question Answering - arXiv, Dec 2024 (arxiv.org/abs/2412.05453)
- Revolutionizing High School Physics Education: A Novel Dataset - Big Data and AI Conference, Dec 2023 (Springer)