

AADYA MADANKAR

AI ENGINEER



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Portfolio

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SUMMARY

Fresh AI Engineer with strong knowledge in **Machine Learning, Deep learning and Natural Language Processing** specializing in **Generative AI, Prompt Engineering, and Retrieval augmented generation**. I build models using core libraries like **PyTorch** and **TensorFlow**, and develop advanced autonomous agents with frameworks such as **LangChain, LangGraph, and CrewAI**. Skilled in the end-to-end project lifecycle, I deploy models as scalable services using **FastAPI**, and **Streamlit**. An active open-source contributor to Unify.ai, and ready to solve complex challenges.

EDUCATION

Priyadarshini College Of Engineering, Nagpur (2021-2025)

CGPA 7.58

Bachelor of Technology in Artificial Intelligence and Data Science

PROJECTS

AI- ASSOCIATE

(December 2023 - July 2025)

Role : AI- Engineer

Goal: Build and deploy a multilingual conversational AI application enabling real-time speech, text, and vision processing across 30+ Indian languages.

- Engineered and optimized prompts across **30+ Indian languages** to build a **lightweight, conversational AI architecture** that processes **multimodal inputs (text, speech, vision)** and dynamically routes queries to the most suitable models through **culturally contextual prompt** design.
- Refined prompt frameworks for core components including wake word detection, **query optimization** engine, dynamic service router, and **text-to-speech** pipeline, **conducting iterative A/B testing** with prompt variations and reduced **response ambiguity**.
- Developed **prompt chaining** strategies for **RAG** system integration across **multiple LLMs** to reduce hallucinations and maintain cross-model consistency.

MULTI-MODAL Q & A SYSTEM

(May 2025 - June 2025)

Role : AI- Enigneer

Goal: To build a modular Q&A system that answers user queries from PDFs, web URLs, and images using LLMs, semantic search, and workflow orchestration.

- Developed a multi-modal Q&A system using **FastAPI, Langchain, LangGraph**, and Gemini to handle PDFs, web URLs, and image inputs for document understanding and intelligent question answering.
- Used **LangGraph** for workflow orchestration and **FAISS** with Google AI embeddings to enable **RAG-based semantic** search across text and image data.
- Built a modular and interactive architecture with **Streamlit UI** and integrated agent-based task execution via **CrewAI** for enhanced processing.

SKILLS

- Machine learning, NLP, Data Analysis, Deep learning, Generative AI, Prompt engineering , Computer vision (pillow & open-cv) , Retrieval-Augmented Generation (RAG)
- Good communication skill, Able to work in a team, Great problem solving skill

CERTIFICATIONS

- The AI Ladder: A Framework for Deploying AI in your Enterprise-IBM*
- Introduction to TensorFlow for **Artificial Intelligence, Machine Learning, and Deep Learning- Deeplearning.AI***

PUBLICATION

- Madankar, A., "AI-Associate: A Lightweight Architecture for Conversational Agents," IEEE OTCON 2025, Apr. 2025, doi: 10.1109/OTCON65728.2025.11070569**