KARTHIK MARELLA

💼 Portfolio   ✉ karthikmarella24@gmail.com   in LinkedIn   ○ GitHub

EDUCATION

Aditya College Of Engineering   **2020 − 2024**
B.Tech - CSE(Artificial Intelligence and Machine Learning) - ***CGPA - 7.52***   *Surampalem, Andhra Pradesh*

COURSEWORK / SKILLS

- Python
- ML flow
- LangChain
- n8n
- AWS
- Docker
- Machine Learning
- Vibe Coding

EXPERIENCE

AWS Devops Intern at Technical Hub | **July 2022 - March 2023**

- Learned and Implemented **AWS,Docker,Git,Jenkins,CI/CD**
- Working on a Project Using CI/CD Methodologies.
- Develop a Static website Using Docker.
- Implementing AWS for the Hosting the Website.
- Handle the Database and created a responsive front-end using HTML, CSS, and JavaScript.

PROJECTS

GLAUCOMA DETECTION USING DEEP LEARNING | PYTHON ,CNN,Django

- Developed a deep learning model to detect glaucoma from retinal images.
- Utilized a dataset comprising images of both healthy and glaucomatous eyes.
- Implemented convolutional neural networks (CNNs) for feature extraction and classification.
- Achieved significant accuracy in automated glaucoma detection, aiding early diagnosis and intervention.
- Technologies Used: Python, TensorFlow, Keras, Convolutional Neural Networks (CNNs), Django ,HTML,CSS,JavaScript.

Autonomous AI Research Agent with Multi-Step Reasoning 🔗| LangGraph, Agents, RAG, OpenAI, Vect

- Designed and deployed an autonomous multi-agent system capable of researching topics, retrieving information, validating sources, and generating structured insights without human intervention.
- Implemented a planner-executor architecture using LangGraph, enabling the system to break complex tasks into smaller steps and solve them through iterative reasoning.
- Built a retrieval-augmented generation pipeline using a vector database to support memory, long-context reasoning, and accurate contextual responses.
- Developed specialized agents such as a research agent, validation agent, and coding agent with access to external tools including web search, file processing, and Python execution.
- Technologies Used: LangGraph, LangChain, multi-agent workflows, OpenAI models, vector databases, RAG pipelines, FastAPI, Python-based tools.

TECHNICAL SKILLS

Languages: Python
Technologies: AWS, Azure, Docker, SQL, PromptEng, LangChain, n8n
Developer Tools: VS Code, Jupyter Notebook, colab, Github, Git.

CERTIFICATIONS

- AWS Certified Cloud Practitioner -**AWS**
- Azure Administrator Associate- **Microsoft**
- Azure AI Fundamentals-**Microsoft**
- AI Certified Foundations Associate-**Oracle**