UDARA HERATH AI/ML Engineer Intern

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GitHub: https://github.com/UdaraChamidu   Linkedin: http://www.linkedin.com/in/udara-herath-530006217

HuggingFace: https://huggingface.co/UdaraChamidu   Portfolio: https://udara-chamidu-portfolio.vercel.app

PROFESSIONAL SUMMARY

Aspiring AI/ML Engineer and final year BSc Computer Engineering undergraduate with hands on experience in building agentic AI systems, multimodal models, GenAI applications and LLM powered applications. Skilled in Python, FastAPI, LangChain, Hugging Face, TensorFlow and more, with expertise in Generative AI, NLP and Agentic AI. Strong background in building end to end AI applications, including model deployment, automation workflows and RAG pipelines. Passionate about innovation, research and creating real world AI solutions.

EDUCATION

B.Sc. (Hons) Computer Engineering (2022 – Present) University
of Jaffna

PROJECTS

Eye Disease Classification With Integrated Chatbot - Ongoing Research Project (GitHub) | *ViT, LLMs, RAG, Hugging Face, Python, FAISS, InceptionV3, CNN, Streamlit*

· Designed an AI eye disease diagnostic system using 3 model combination. (CNN, RAG and image+text model).
· Combined OCT image analysis (ViT) with symptom based NLP (LLMs + RAG) for multimodal accuracy.
· RAG pipeline is created for text data with Gemini 2.5 flash and FAISS vector database
· Integrated chatbot interface to allow patients/doctors to query the model in natural language.

AI Trip Planner Agent (GitHub) | *FastAPI, Streamlit, GPT-4o, LangGraph, Tool APIs,*
· Built an intelligent travel assistant that creates personalized trip plans with GPT-4o and LangGraph.
· Integrated weather, exchange rates and search APIs, supporting session history, chat deletion and PDF export.
· Trying to deploy with LLMOps, improving performance and enabling scalability for real users.

AskBot Chatbot (Live Demo) | *React, FastAPI, Gemini 2.5 Flash API, LangGraph, Vercel, Railway*

· Designed a ChatGPT like interface with React frontend and FastAPI backend.
· Integrated Gemini 2.5 Flash API + LangGraph to manage conversational flows efficiently.
· Deployed frontend on Vercel and backend on Railway, ensuring seamless real time interaction.

N8N AI Assistant (GitHub) | *n8n, GPT-4o, Telegram Bot API, Google API, Python, Weather API,*

· Developed a Telegram integrated AI assistant capable of handling text, voice, images and PDF queries.
· Automated emails, calendar events, weather/crypto price checks and Python code execution.
· Leveraged n8n workflows + GPT-4o to demonstrate practical agentic AI for personal productivity.

Real-Time Waste Detection App – (GitHub) | *Python, Flask, YOLOv8, OpenCV, TensorFlow, HTML, CSS, JS*
· Built a real-time waste classification web app using YOLOv8 to detect and classify waste from camera input.
· Integrated Flask backend with live video streaming and deep learning model inference for instant predictions.
· Designed a responsive UI with result visualization and waste category suggestions.

Legal Document Explainer (Live Demo) | *Python, FastAPI, Hugging Face Transformers, LangChain, Streamlit*
· Built an AI powered platform to simplify legal contracts and lease agreements.
· Highlights key clauses and risks while supporting natural language Q&A for contextual understanding.
· Enhanced accessibility for non lawyers by combining LLMs + legal text analysis.

Portfolio Chatbot + Automate Blogging (Live Demo) | *React, FastAPI, RAG, FAISS, Vercel, Railway, GitHub Actions*
· Created intelligent portfolio featuring RAG-powered chatbot for visitor interaction and automated AI blog generation
· Implemented CI/CD pipeline generating daily AI/ML news summaries, combining news APIs with AI summarization
· Implemented a RAG pipeline with FAISS vector database, enabling contextual responses from stored data.

Video Chatty - ongoing (GitHub) | *Streamlit, Python, Gemini AI, Docker, AWS*
· Built interactive video analysis tool allowing users to chat with video content using natural language processing.
· Integrated YouTube transcript extraction and local video upload capabilities with Gemini AI for intelligent responses
· Deployed Dockerized Streamlit application on AWS infrastructure with persistent chat history and real-time processing.

AI Domain Name Generator - ongoing (GitHub) | *Python, Flask, LangChain, OpenAI API, AWS EC2, GitHub Actions*
· Developed full-stack web application that generates SEO-optimized domain names using OpenAI's GPT model integrated through LangChain framework.
· Implemented automated CI/CD pipeline with GitHub Actions for seamless deployment to AWS EC2 with Nginx reverse proxy configuration.

SKILLS AND ABILITIES

· Programming Languages: Python, Java, C++
· ML and DL Frameworks: Scikit-learn, TensorFlow, Keras, Random Forest, Regression Models
· Generative AI & NLP: LLMs, LangChain, Transformers, RAG, Prompt Engineering, Gemini, Groq, GPT models
· Agentic AI & Automation: Agents, LangGraph, n8n,

· Web & API Development: FastAPI, Streamlit, Flask, React, REST APIs
· Databases & Vector Databases: MongoDB, MySQL, ChromaDB, FAISS
· DevOps & Tools: Google Colab, Hugging Face, Vercel, Railway, LLMOps, Docker

CERTIFICATIONS

· AI Agents Fundamentals - Hugging Face
· AI Agents Completion- Hugging Face
· AI/ML Engineer Stage 1 – SLIIT
· AI/ML Engineer Stage 2 – SLIIT
· Introduction to AI - Simplilearn

· Model Context Protocol – Anthropic
· Docker for beginners - KodeKloud
· Python for Beginners - UOM
· Python Programming (2) - UOM
· Web Design for Beginners - UOM

MEMBERSHIPS

· The Institution of Engineers Sri Lanka (IESL) – ID:S-32542
· Institute of Electrical and Electronics Engineers (IEEE) ID:101595556
· Computer Engineering Society (CES - UOJ)

REFERENCES

· Dr. Pratheeba Jeyananthan, Head of the department, Dept. of Computer Engineering Faculty of Engineering, University of Jaffna, pratheeba@eng.jfn.ac.lk, +94778448679
· Dr. Jananie Jarachanthan, Senior Lecturer, Dept. of Computer Engineering Faculty of Engineering, University of Jaffna, jananie@eng.jfn.ac.lk, +94764904957