



ATHARSH K

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EDUCATION

KPR Institute of Engineering and Technology

Coimbatore, India

2022 - 2026

- Bachelor of Technology - Artificial Intelligence and Data Science : GPA: 8.1*/10 (Till 5th Semester)

Programming Languages : Python, R, SQL, Java, C

Machine Learning & AI

- Supervised & Unsupervised Learning
- Deep Learning: CNNs, RNNs, LSTMs, GRUs, Energy-based models
- ML Ops: ETL, DVC, Containerization, CI/CD
- Natural Language Processing (NLP): Text Preprocessing, Seq2Seq Models, Transformers (BERT, GPT)
- Generative AI (GenAI): Quantizing & Fine-tuning LLMs, RAG Systems, Agentic AI

Tools & Frameworks

- Core Libraries: Pandas, NumPy, Scikit-Learn, Visualization Libraries
- Deep Learning & NLP: TensorFlow, Keras, PyTorch, Hugging Face - Transformers
- LLM & AI Ecosystem: LangChain, Crew AI, Unsloth AI, Phi Data, Langgraph, Opik
- Databases: MySQL, MongoDB, Neo4j
- Development & DevOps: Git, Docker, FastAPI, Postman, MLFlow, Airflow
- Big Data & Cloud: PySpark, Kafka, AWS Bedrock, SageMaker

PROFESSIONAL EXPERIENCE

Maestro Technology Services Pvt Ltd

Coimbatore, India

Jan 2024 - Feb 2024

Backend Intern

- Specialized in MySQL**: Developed and managed databases using MySQL.
- API Development**: Engineered and deployed **20+ RESTful APIs** using FastAPI
- Postman**: Utilized Postman for API testing and debugging.
- Database Integration**: Connected APIs to databases using SQLAlchemy ORM
- Projects Worked on** : Developing APIs and implemented ML model deployment pipeline , Earth mover Rental Management system
- Technologies** : FastAPI, SQLAlchemy, MySQL, Docker, Pytest

Yaane Technologies LLC

Coimbatore, India

Jan 2025 - Feb 2025

Gen AI Intern

- Legal Agent System**: Engineered multi-agent legal workflow with **Crew AI** for criminal case analysis, implemented knowledge retrieval from IPC sections and case law, evaluated the agents task workflow using agentic metrics like **TUE, MCR, CSS and SPI**, deployed on Render platform.
- SQL RAG Chatbot**: Architected RAG system for natural language database queries with multi-modal input support (audio, image) achieving about **96% accuracy**, deployed as an interactive Telegram bot with efficient FAISS vector search.
- Technologies**: SQLAlchemy, MySQL, LangChain, FAISS, Groq API, Telegram, speech_recognition, Docker, Render, Opik, Crew AI, FastAPI, Raaga AI, Streamlit

PROJECTS

Dermacare

- Description**: Collaborated with colleagues to build a full-fledged skin classification system web app. Achieved an **accuracy score of 82 %** in the testing process of classifying images, where the model is fine tuned on 10 major skin disease classes of 10,000 dermatological Images.
- Key Features**: Integrated chatbot support and medical report analysis.
- Tech Stack**: Pretrained CNN models - VGG16 and ResNet, transfer learning techniques, Gemini API, LangChain framework.

ConfidenStrategy - AI Driven Strategical Analysis platform

- **Description:** ConfidentStrategy is an AI platform using LLMs to analyze business data and generate strategic visualizations with over **85 % accuracy**.
- **Key Features:** Company analysis, market projections, strategy generation, interactive chat, TTS summaries, resource visualization, revenue forecasting, risk assessment, implementation planning.
- **Tech Stack:** Streamlit, Alpha Vantage/Groq/Finnhub/Deepgram APIs, Plotly, pandas, FAISS, HuggingFace Embeddings, cryptography (used AES-256 Hashing for encrypting the company details).

DOCU GENIE: AI-Powered Document Summarizer

- **Description:** DOCU GENIE is an advanced AI-powered document summarization tool that leverages Google's Gemini model to intelligently summarize PDFs and notes (both handwritten and typed).
- **Key Features:** PDF and Notes Summarization, Text-to-Speech functionality, Interactive Chat for further clarification, Feedback Loop for summary refinement, Integrated with Google Gemini AI and Deepgram APIs. Does the processing of **100 page document** in less than **50 seconds**.
- **Tech Stack:** Streamlit, PyPDF2, Reportlab, Pillow, Gemini API, Deepgram API.

MultiDoc RAG System

- **Description:** The MultiDoc RAG System processes and answers queries from multiple document types such using a Retrieval-Augmented Generation (RAG) approach achieving **91%** answer relevancy and **88%** Faithfulness score
- **Key Features:**
 - Multi-Document Support (Text, PDF, CSV, Web URLs,PPTs,Word Files, Images)
 - Vector Embedding Storage (FAISS + Hugging Face Embeddings)
 - Utilizing Llama 3.3-70B-versatile provided by Groq Inference.
 - Interactive UI for document management and querying
- **Tech Stack** Streamlit, LangChain Ecosystem, FAISS, Groq Inference Engine, Llama 3.1-70B Model, Sentence-Transformers.

Molecular Solubility Predction

- **Description:** Developed a web application that predicts molecular solubility (LogS) values using machine learning models trained on chemical descriptors.
- **Key Features:** Interactive SMILES input, custom parameter adjustments, and visual analysis of solubility predictions with classification.

WORKSHOPS AND HACKATHONS:

1. National Workshop on Machine Learning: Techniques and Trends (NIT Trichy)

- Gained hands-on experience with ML algorithms, deep learning, feature engineering, and advanced techniques like speech recognition and reinforcement learning.

2.Hackathons:

- **Smart India Hackathon (SIH)**
 - Project: Indian Version of Nagish App
 - Developed an app to communicate in native languages using Langchain, Quantized Llama 3 70B, LibreTranslate API,
- **Tata Technologies Innovent 24 Hackathon**
 - Project: OBD Diagnostic Tool
 - Car condition analysis and service station locator using Langchain, Mixtral 8*7B , Maps API.
- **Google Gemini API Developer Competition**
 - Project: DOCU GENIE – AI-Powered Document Summarizer
 - Summarizes PDFs with text-to-speech and interactive chat using Google Gemini and Deepgram APIs.

CERTIFICATIONS

• MLOps Course - Udemy

Learnt end-to-end MLOps expertise in building, automating, and deploying scalable machine learning pipelines using Git, Docker, MLflow, DVC, Apache Airflow, CI/CD, and AWS SageMaker for production environments.

• NPTEL Data Analytics with Python:

Achieved elite scoring (Above 65%), mastering data manipulation, statistical analysis, and visualization using Python.