AKASH P S
AI ENGINEER

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Hard Skill

- **React**
- **MongoDb**
- **Html5**
- **Css**
- **Bootstrap**
- **JavaScript**
- **Tailwind Css**
- **REST APIs**
- **Python**
- **Django**
- **DjangoRestframework**
- **LLM**
- **OpenCv**
- **Pandas**

- **Machine learning**
- **Deep learning**
- **Numpy**
- **Seaborn**
- **Matplolib**
- **PostgresSQL**
- **TensorFlow**
- **Dvc & Mlflow**
- **Langchain**
- **Keras**
- **Docker**
- **Git**

EXPERIENCE

Ai Engineer
Copublica | Feb 2024 – Present

Roles and Responsibilities

- Develop and fine-tune end-to-end AI models and large language models (LLMs) to align with specific business needs.
- Develop custom models using ML/DL algorithms.
- Build and implement Retrieval-Augmented Generation (RAG) applications to enhance data retrieval and processing capabilities.
- Develop multiple agentic RAG systems and agentic AI applications (CrewAI, LangGraph, AutoGen).
- Work with vector databases, including ChromaDB and Pinecone, to support efficient data retrieval and similarity search.
- Design and develop voice assistant systems utilizing LLMs for improved user interactions.
- Create and maintain RESTful APIs using Django REST framework to facilitate seamless backend communication.
- Collaborate on frontend development using React.js to ensure cohesive and responsive user interfaces.
- Focus on developing agent workflows and systems to streamline operations and improve efficiency.

ABOUT ME

I am an AI Engineer with a strong foundation in full-stack development, passionate about creating intelligent, scalable systems that drive meaningful insights. My expertise includes developing and deploying machine learning and deep learning models, fine-tuning large language models (LLMs), prompt engineering, and building computer vision applications. I also specialize in creating chatbots, Retrieval-Augmented Generation (RAG) systems, and AI applications with agentic workflows, as well as designing distributed systems to integrate these solutions seamlessly into production. Dedicated to writing clean, maintainable code, I thrive on solving complex problems efficiently. Adaptable across platforms and committed to continuous learning, I'm eager to contribute to an innovative team focused on AI advancements, delivering impactful, AI-driven solutions

PROJECTS

HEALTHY DIET WEB APP   GitHub repo

Developed and implemented a comprehensive wellness platform, empowering users to optimize their health through personalized diet suggestions, a cutting-edge recipe generator, and advanced food image identification technology.

- Machine learning algorithm **K-Means Clustering** powers diet recommendations.
- The recipe generator, crafted with **LLM** models like **Gemini Pro**, enhances user experience
- Deep learning techniques, leveraging a **pre-trained VGG16** model, drive the food image classification feature
- Data acquisition is accomplished through **web scraping**.
- Comprehensive data analysis, including exploratory data analysis (**EDA**) and **feature engineering**, further refines the dataset, followed by **feature transformation**
- The entire project is constructed with a **frontend** in **React.js** and a **backend** in **DjangoRestFramework**, utilizing **RESTful APIs**.
- **MLOps** tools like **DVC** and **MLflow** are incorporated for tracking and continuous implementation

Technologies used in this project

- React.js,JavaScript,CSS, Tailwind CSS, PostgreSQL, Python,Django, Django Rest Framework, REST API, LangChain, Pandas, NumPy, Scikit-learn, Seaborn, Matplotlib, Keras, TensorFlow, BeautifulSoup, Docker, Mlops,Llm,Gemini Pro

EXPERIENCE

Data Science Trainee

AlmaBetter | JAN 2023 – JAN 2024

Roles and Responsibilities

As a Data Science Trainee, I played a pivotal role in various aspects of the data science lifecycle, from data analysis and exploratory data analysis (EDA) to feature extraction and model development based on specific use cases. My primary responsibility was to construct accurate models with a high precision rate, leveraging machine learning and deep learning libraries. Beyond model creation, I demonstrated proficiency in integrating these models into production systems by developing APIs using Django Rest Framework. Additionally, I extended my capabilities to the frontend by building user interfaces with React. This comprehensive involvement across the entire data science pipeline showcased my versatility and commitment to delivering end-to-end solutions.

MINI PROJECT

RETAIL INDUSTRY QA BOT

GitHub repo

Developed a retail AI chatbot catering to admin personnel, seamlessly linking with databases for swift backstore data retrieval. Authorized users uphold a secure and streamlined experience, obtaining essential details on stock availability, pricing, and profit

- Python,Langchain,Streamlit,PostgreSQL,Llm, Gemini Pro

FASHION RECOMMENDATION SYSTEM

GitHub repo

Designed and developed an advanced fashion recommendation system, specializing in predicting and suggesting similar dresses to refine personalized style suggestions.

- TensorFlow, Keras, Deep Learning Algorithms (CNN), Machine Learning Algorithm (Nearest Neighbors), NumPy, Transfer Learning (ResNet)

OBJECT-DETECTION

GitHub repo

Designed an advanced waste detection system utilizing object detection to categorize and identify food items. Implemented a feature distinguishing whether identified food is consumed or wasted, contributing significantly to environmental awareness and resource optimization

- OpenCv,YOLOv5,Tensoflow,Pandas,Streamlit, Notebook

ECOMMERCE SHOPING SITE

GitHub repo

Created a streamlined e-commerce platform featuring robust user management, intuitive cart functionality, and seamless order processing

- ReactJs,Html,Css

CHARACTER REFERENCES

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