Mohammad Ausaf

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EDUCATION

- **KIET Group of Institution**   Ghaziabad, India
  Bachelor of Technology - Computer Science   2024
  Courses: *Probability and Statistics, Calculus, Operating Systems, Data Structures and Algorithms, Machine Learning, Databases*

SKILLS SUMMARY

- **Languages:**   Python, C++, HTML, SQL
- **Frameworks:**   FastAPI, Flask, Gradio, Beautiful-Soup, StreamLit
- **ML Packages:**   CLIP (Semantic Search), Tensorflow, OpenCV, Langchain, Flowise, Keras
- **Platforms:**   HuggingFace, GCP, OpenAI API, GIT-GitHub, Linux
- **(Vector)DBs:**   PineCone, Weaviate, MongoDB, GCP Vertex AI
- **Soft Skills:**   Academic & Research Writing

EXPERIENCE

- **Galleri5 - MLE Trainee - Link**   Bengaluru
  (Full-time)   *Dec 2023 - Present*
  - **CLIP Semantic Search**: Developed, and maintained a open-CLIP based Multi-modal tool for facilitating semantic search. Used Gradio for rapid prototyping and iterating as per changing requirements.
  - **Data Ingestion Pipelines**: Implemented Data Ingestion Pipelines, using client-APIs and Web-Scraping, thus, automating continuous data ingestion. Responsible for Migrating, Maintaining, and Data Cleaning in MongoDB.
  - **Embedding Pipelines**: Wrote and responsible for maintaining, continuous vector/embedding calculation and integration for Pinecone and Weaviate.
  - **API**: Wrote and maintained Fast-APIs for trends.galleri5 web-app retail tab, including data manipulation and cursory data analysis.

    Tech-Stack :   Python, PyTorch, FastAPI, CLIP, Pinecone, MongoDB, Weaviate, GCP Vertex-AI platform, Gradio, OpenAI-API.

PROJECTS

- **AushadHub: ML-based Medicinal Herb Identification Platform - (Image Processing, Transfer Learning, Google Cloud) - [Link]**:

  - Developed a Medicinal Herb Identification Platform leveraging ResNET50, achieving a testing accuracy of 98% for classification tasks across 30 labels
  - Implemented preprocessing techniques to optimize images before model inference, for efficient and accurate identification of medicinal herbs.
  - Deployed a Flask application as the backend on Google Cloud, serving as an inference endpoint for image uploads.
  - Created a user-friendly interface using HTML, CSS and JavaScript allowing users to upload images for plant identification.
  - Added functionality to display comprehensive descriptions of the predicted plant species, enhancing user experience and understanding.
  Tech :   Python, PyTorch & Tensorflow, Keras, Flask, HTML, CSS, GCP

- **Exercise Monitoring System: Computer Vision based Exercise Monitor and Counter - (Image Processing, Computer Vision) - [Link]** :

  - Developed a Python-based exercise monitoring system leveraging OpenCV, Mediapipe, and Scenedetect for real-time video analysis, including frame filtering to eliminate frame fluctuations.
  - Utilized Mediapipe's pose estimation to track key body landmarks, particularly knee and elbow positions during exercises, ensuring precise angle calculations.
  - Created an interactive system offering real-time feedback on exercise performance and repetition counting, incorporating frame filtering.
  Tech :   Python, OpenCV, PyScene-Detect, Numpy

MOOC(S) & CERTIFICATIONS

- Data Science and Machine Learning Bootcamp - A-to-Z Mastery (Udemy)
- Object Oriented Data Structures in C++ - University of Illinois at Urbana-Champaign (Coursera)
- Algorithmic Toolbox - University of Michigan (Coursera)

CO-CURRICULAR

- **Core Team Member, ISTE (Indian Society for Technical Education)**:
  - contributed to organizing events for the ISTE KIET chapter within college like Quizzes, Poster Competitions etc.
- **Competitive E-Sports**:
  - Regularly competed in game, as well as in-real-life events in competitive capacity.