Basit Ali

AI Developer

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Professional Summary

Passionate AI Developer with over a year of experience in **Machine Learning, Deep Learning, Computer Vision, Natural Language Processing (NLP),** and **Generative AI.** Skilled in utilizing frameworks like **Scikit-learn, TensorFlow, Keras, Pytorch, OpenCV, NLTK** and much more**,** with hands-on expertise in **Large Language Models (LLMs)** and **RAG systems.** Holder of a **Bachelor's degree in Information Technology** from the University of the Punjab, my expertise is encapsulated in the following core competencies:

- **Advanced AI System Development:** Proficient in designing and deploying sophisticated AI-driven systems. Proven track record in **AI chatbot development,** utilizing **OpenAI frameworks** to create responsive, intelligent conversational agents tailored to diverse industry needs.
- **Natural Language Processing Excellence:** Exhibits strong proficiency in NLP, skillfully **employing sentiment analysis, language understanding,** and **automated content generation technologies**. Expert in integrating emotion classification algorithms to enhance **AI communication's effectiveness** and **relatability.**
- **Innovative Technical Integration and Adaptation:** Renowned for seamlessly integrating and adapting a variety of AI technologies to deliver superior functionality and user experience. Exceptional skills in **image** and **video generation,** reflecting a comprehensive and adaptable AI skillset.

EDUCATION

University of the Punjab, Lahore

Bachelor of Science in Information Technology

PROFESSIONAL EXPERIENCE

NOBORDER.z INNOVATIONS, Lahore

AI Developer (Oct 2023 - Present)

Project: Xana AI Protocol – Personality-Driven Conversational AI

Xana AI Protocol is the ultimate conversational AI that provides personalized responses through chat.
- Developed a conversational AI using **state-of-the-art LLMs (Gemma, Mixtral, Llama)** to simulate human-like interactions, adapting responses to user personalities and behavioral cues.
- Built dynamic conversational flows with **LangChain** and enhanced accuracy using **Retrieval-Augmented Generation (RAG)** for context-aware, real-time information retrieval.
- Integrated **Retrieval-Augmented Generation (RAG)** to enhance the chatbot's ability to retrieve contextually relevant information for more accurate responses.
- Utilized **Groq** for optimizing model performance and ensuring real-time processing efficiency.
- Designed and maintained an **SQLite database** to store user interactions
- Built a RESTful API using **FastAPI** to facilitate seamless communication between the chatbot's backend and frontend.
- Enhanced user experience through personalized, dynamic, and context-aware conversations.

Project: Voice-Based Conversational AI Assistant:
- Developed a **voice-enabled AI chatbot** using **OpenAI's GPT-4** and **LangChain** framework, enabling natural, context-aware conversations for customer service automation.
- Integrated **ElevenLab's text-to-speech (TTS)** and **OpenAI Whisper's speech-to-text (STT)** to create seamless voice interactions.
- Focused on real-time interaction and speech-to-text integration for accurate and efficient user engagement.

Project: UGC Facial Feature

UGC Facial Feature Detection is an AI-powered project that utilizes the OpenAI Vision model to detect and analyze facial attributes from user-uploaded selfies. It provides a comprehensive solution for extracting key facial features and generating structured data for various applications.

- **Advanced Vision AI Integration:** The project leverages the cutting-edge OpenAI Vision model to accurately detect and analyze facial features from user-uploaded images.
- **Hairstyle Similarity Scoring:** Utilizing advanced natural language processing techniques, the project compares user-provided hairstyle descriptions with a comprehensive database of known hairstyles, assigning similarity scores to identify the closest matching hairstyle.
- **Facial Landmark Detection:** The project incorporates techniques like Haar Cascade classifiers to detect and extract specific facial landmarks, such as eyes and chin, enabling precise analysis of these features.
- **Reference-based Feature Matching:** By comparing extracted facial features with carefully curated reference charts, the project determines the closest resemblance to predefined shapes and styles, providing accurate categorization of eye shapes and chin shapes.
- **Asynchronous Processing:** The project leverages asynchronous programming paradigms to efficiently handle multiple user requests concurrently, ensuring optimal performance and scalability.

Project: Generating Images and Videos using Stable Diffusion and ComfyUI:

I worked on Stable Diffusion, ComfyUI and Generative AI to create images and videos of interest for the marketing team. I utilized various technologies to ensure the production of flicker-free, smooth videos and images.

- **Stable Diffusion Expertise:** Proficient in utilizing Stable Diffusion and Generative AI techniques for creating tailored images and videos, specifically for marketing purposes.
- **ComfyUI Expertise:** Proficient in utilizing ComfyUI workflows for generating tailored images and videos.
- **Advanced Image Generation:** Skilled in employing text2img and img2img technologies, along with ControlNet and Roop extensions, to generate high-quality, desired images.
- **Video Production with AI:** Experienced in creating flicker-free and smooth videos using advanced tools such as img2img, video2video, Deforum Stable Diffusion, and Animate_diff extensions.
- **Model Training for Consistency:** Demonstrated ability in training Stable Diffusion models to produce consistent and accurate facial images, enhancing the reliability of AI-generated content.
- **Technical Versatility in AI:** Adapted various AI technologies to achieve optimal results in image and video quality, ensuring seamless and professional outputs for marketing campaigns.

Project: Other Work:

- **ComfyUI Automation:** Designed and automated a ComfyUI workflow for transforming user-input videos into stylized animated outputs. Built a Python-based pipeline leveraging OpenCV for frame processing and FFmpeg for seamless video encoding/decoding. Integrated AI-driven dynamic scene selection to intelligently enhance transitions and visual effects, ensuring high-quality animations aligned with ComfyUI's user-centric design principles for intuitive interaction and aesthetic consistency.

- **Face Recognition Attendance System:** Designed and implemented an automated attendance system leveraging OpenCV's LBPH algorithm for real-time facial recognition. The system features a Tkinter-based GUI for seamless user interaction and MySQL for secure storage and retrieval of attendance records, ensuring accuracy and scalability. Achieved reliable performance in real-world scenarios with minimal latency.

- **Twitter Sentiment Analysis:** Engineered a sentiment analysis pipeline using hybrid architectures combining RNNs and Transformers (BERT) to classify Twitter data into positive, neutral, and negative sentiments. Leveraged TensorFlow for model training and Hugging Face libraries for fine-tuning pre-trained models, achieving state-of-the-art accuracy in real-time trend analysis and emotion detection.

TECHNICAL SKILLS

1. **Natural Language Processing (NLP):** Proficiency in Large Language Models (LLMs), Langchain, Embeddings, Vector Search. Skilled in using nltk in Python.

2. **Machine Learning:** Advanced skills in machine learning, deep learning and computer vision using Scikit-Learn, Keras, TensorFlow, PyTorch and OpenCV.

3. **Cloud and Server Management:** Experienced in Amazon EC2 Servers, PM2 Process Management, Heroku, Google Colab, and deploying applications using FastAPI, Flask and Streamlit.

4. **Voice and Speech Processing:** Expertise in text-to- speech and speech-to-text technologies, including the use of ElevenLabs, Whisper and different offline TTS and STT models.

5. **Software and Tools Proficiency:** Experienced in GIT, SQL, and Linux/Windows environments.

6. **Database and Tools Proficiency:** Experienced in SQL, SQLite, and MySQL.

7. **AI-Generated Content:** Proficient in using Stable Diffusion and ComfyUI for creating images and videos.

8. **Programming Languages:** Proficient in programming in Python, C++, and HTML, CSS.

CERTIFICATE

- Certified AI Developer by the NAVTTC
- Microsoft Certified: Azure AI Fundamental