Tanzeel Abbas

Nationality: Pakistani

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Date of birth: 25/02/2002

Address: Islamabad, Pakistan

Links: LinkedIn | GitHub

EXPERIENCE

Machine Learning Engineer | SkyElectric Pvt (Ltd)

October 9, 2023 – Present

Designed and deployed end-to-end data pipelines for extracting and preprocessing data from sources like PDFs and Jira issues. Fine-tuned advanced language models for NLP tasks and implemented deep learning techniques to enhance model performance. Integrated these models into production systems using FastAPI. Optimized search functionality by implementing Retrieval-Augmented Generation (RAG) with LangChain and Elasticsearch, gaining extensive expertise in generative AI, deep learning, and advanced RAG methodologies.

Machine Learning Engineer Intern | RoboLogicx (SMC-PRIVATE Limited)

April 1,2023 – July 25, 2023

At RoboLogix, I developed a real-time computer vision system for a welcoming robot with gender detection and facial recognition features. I applied machine learning and deep learning algorithms, gaining practical experience in AI development and human-robot interaction.

EDUCATION

Bachelor of Science in Artificial Intelligence (3.89 CGPA)

The Islamia University of Bahawalpur. [October 2019 – August 2023]

Artificial Intelligence Developer

Presidential Initiative for Artificial Intelligence & Computing (PIAIC) [June 2020 – October 2022]

Distance Learning (Online)

Diploma in Information Technology (1168/1400)

Khyber Pakhtunkhwa Board of Technical Education, Pakistan. [2018]

PORTFOLIO

1. **Journal Paper**
   " Deep Learning for Uniform Detection A CNN-based Approach " (Submitted in ***SN Applied Sciences*** Journal- IF 2.6)
   Tanzeel Abbas, Zahid Ahmad

2. **Projects**

- **Sky AI Assistant**
  Developed the Sky AI Assistant, an end-to-end AI solution assisting customers, the NOC team, and

the sales team. Leveraged advanced LLMs like LLAMA 3 and OpenAI with LangChain and llama-index for retrieval-augmented generation, delivering real-time insights and enhancing user experience in addressing solar energy challenges.

- **Financial Chatbot**
  Designed and developed a financial chatbot capable of answering complex queries using advanced language models. Implemented retrieval-augmented generation with LangChain and Llama Index, integrating OpenAI APIs for enhanced user interaction. Built multi-agent approaches and ensured secure database connectivity for efficient and accurate query handling. Contributed to the project lifecycle, including Python-based development, API integration, and system optimization.
- **Office Welcoming Robot (Built During Internship at RoboLogix)**
  Designed and implemented a real-time computer vision system for an office robot, enabling personalized greetings through gender detection and facial recognition. Integrated advanced deep learning models to enhance accuracy and reliability. Contributed to the end-to-end development process, gaining expertise in computer vision, human-robot interaction, and practical AI solutions.
- **Student Uniform Detection Using CNN (BS Final Year Project)**
  Convolutional Neural Networks (CNNs) and facial recognition algorithms were used to recognize student uniforms and faces at the same time. The project improved knowledge of multi-task learning, image processing, and deep learning model integration. The study has practical benefits, particularly in school security and exact attendance monitoring.
- **Cotton Plant Disease Detection Using CNN-based Website (AI Expo 2022 Project)**
  Developed a user-friendly website utilizing CNN to detect diseases in cotton plants. Trained CNN model on extensive cotton plant image dataset for accurate disease identification and classification. The project's purpose was to give farmers and researchers a simple platform for diagnosing and managing cotton plant diseases.
- **Generating Text from Poetry Project (AI Expo 2023 Project)**
  Utilized natural language processing techniques and deep learning models such as LSTM (Long Short-Term Memory), GRU (Gated Recurrent Unit), and CNN1D (one-dimensional Convolutional Neural Network). The project's goal was to generate text in the style of the famous poet Jaun Elia, showcasing expertise in employing these models and innovative natural language processing approaches.
- **Some Other Projects** Available in my GitHub Profile

ACHIEVEMENTS AND SKILLS

Programming Skills

1. **Languages:** Python, C++
2. **Libraries/Frameworks**: Langchain | FastAPI | Tensorflow/Keras | Scikit-Learn | Llama-index | Transformers | Docker | HuggingFace | Streamlit | NumPy | Pandas | Matplotlib | Seaborn | LLM Fine-Tuning | PostgreSQL | Git | SQL | Prompt Engineering | RAG | LLM | LangGraph | GCP | OpenCV | NLTK | GitHub | face_recognition

General Software Skills

1. Git and GitHub | Bitbucket | Weka | MS Word | MS Excel | MS PowerPoint | Jupyter Notebook | Colab

Achievements

1. **Winner, Artificial Intelligence Expo 2023:** Awarded for innovative contributions in AI projects at IUB, showcasing excellence in application and implementation.
2. **Runner-Up, Artificial Intelligence Expo 2022:** Recognized for outstanding contributions in AI at IUB demonstrating strong skills in project development and innovation.'
3. **Gold Medalist, Bachelor's Degree**: Recognized for outstanding academic performance and achievement in my Bachelor's program.
4. **Topper of School and College** in Matric and ICS.

CERTIFICATES

- Generative AI with Large Language Models (DeepLearning.AI - Coursera)
- TensorFlow Developer Professional (DeepLearning.AI)
- Machine Learning with Python (IBM - Coursera)
- Data Analysis with Python (IBM - Coursera)
- Advanced Computer Vision with TensorFlow (Coursera)
- Crash Course on Python (Google - Coursera)
- Python for Data Science, AI and Development (IBM - Coursera)

LANGUAGE SKILLS

- **Urdu**
- **English**