Ahmad Raza

AI Engineer / Deep Learning / Machine learning / Natural Language Processing / Large Language Model / PEFT/ Agentic Frameworks / Data Collector / Prompt Engineering

M: +(92) 304-5160812 | **E:** ahmadraza5160812@gmail.com |
L: https://www.linkedin.com/in/ahmad-raza-b60667246

Education

Iqra University, Islamabad Graduated: Jul 2024 **BS, Computer Science**
Courses: Python, **Software Engineering, Machine learning**, **Artificial Intelligence**, **Deep learning,** Object Oriented Programming, Data Structures, Web Development.

Skills

· **Languages:** Python, HTML, CSS, JavaScript, C++

· **Technologies: Scikit-learn, Keras, Numpy, Pandas, Matplotlib, Transformer, Swe-Agent, Devika, Autogen, Langchain, Whisper, Flask, Django, Streamlit, React**

· **Others:** Git, GitHub, Software Engineering.

Work Experience

Wellness Innovation – Machine learning / AI Engineer JAN-2024 (Present)

- I have had the privilege of working **remotely for a Chicago-based company for nearly a year**, under the guidance of the owner, **the techlead of AutoML at Google**. This experience allowed me to build a strong foundation in generative AI and advanced prompt engineering.
- My work initially focused on creating audio through complex **prompt** methodologies, converting inputs into MIDI files, transforming them into formats like ABC notation, and using advanced prompts to generate refined outputs.
- I then transitioned into data generation and collection, where I gathered high-quality mental health data from **Wikipedia** and then collected open-source labeled data from **GitHub**, **Hugging Face**, **Kaggle**, different open-source sites as well as by different LLM articles for mental health Chatbot.
- A significant part of my role involved fine-tuning large language models (**LLMs**). I worked with a high-benchmark 7B model, applying PEFT techniques to fine-tune it on custom SFT and DPO datasets. Using **Analysis**, **Response**, **Evaluation** with multiple dimensions and **self-reflection** techniques within prompts, I achieved efficient results, even surpassing the performance of larger models.
- I also delved into **Agentic frameworks**, contributing to systems like **Devika**, **SWE Agent,** and **Autogen**. These frameworks are part of a broader initiative to develop our own software engineering system.This system is designed to handle tasks such as code **analysis**, **feature addition**, **testing**, **debugging**, and **bug resolution**—all driven by PhD-level prompts to empower the **agents** to perform at the highest level.

The Sparks Foundation – Data Science & Business Analytics JULY-2023 – AUG-2023

- Successfully completed a Remote based **internship** at the spark Foundation as a Data Science and Business Analytics. Made a multiple projects, based on Supervised and unsupervised Learning Projects such as Related to a **Regression**, **Classification**, **Clustering** using Machine learning algorithms and made a post and share it on my Linkedin profile

LinkedIn Teaching– Machine Learning / Python

- Successfully conducted educational content on LinkedIn of Machine Learning Algorithm, Explain it very precisely with intuition, mathematically and then implement it by code and share document as well,resulting in a 40% increase in followers

Projects

FYP | *Stutter Helper Using AI :*

*Technologies Used: **Artificial Intelligence, Machine Learning**, NLTK, Scikit Learn, Tensorflow, Keras, Python*, Flask, HTML, CSS

· Developed an AI-based system to detect and correct stuttering in real-time. Utilized machine learning algorithms such as **SVM, ANN, Random Forest, and CNN** dense one layer to analyze stuttered speech. The system **detects stuttering** patterns then **enhances the speech** through the Dynamic Algorithm and then converts **speech to text** using Whisper package, then **corrects it** using some NLP Techniques,, and **reconstructs** fluent speech. Built a user-friendly web application using Flask for real-time speech input audio and output the reconstructed voice. This solution aims to provide accessible and effective speech therapy for individuals with stuttering.

Conversation ChatBot | *Streamlit:*

Technologies Used: Python, Streamlit, Langchain, Groq, LLM (llama-3.1-70b-versatile)

· This project showcases a dynamic **Conversational Q&A Chatbot** built with Streamlit and Groq and uses **llama-3.1-70b-versatile LLM** model, leveraging advanced AI to deliver informative and engaging responses including previous context.

Data Summarization | *HuggingFace:*

*Technologies Used: Python, Flask, **HuggingFace LLM (bart-large-cnn)**, HTML, CSS.*

· we have used the **API** provided by **Hugging Face** for our Data Summarization project. We have used Python programming language and **Flask** framework for Back-end of our web app and HTML,CSS for front-end.

Sentiment Analysis | *Machine Learning:*

Technologies Used: Python, Flask, Matplotlib, Pandas, NLTK, Pickle, Machine Learning Models,HTML, CSS.

· Sentiment Analysis on Amazon Reviews video. I've built a classifier using the Machine Learning Algorithm which is **Random Forest, XgBoost, and Decision Tree Classifier** that can predict whether a review has a positive, neutral, or negative sentiment.

Real Estate House Prediction | *Machine Learning:*

Technologies Used: Python, Matplotlib, Pandas, Machine Learning Models

· I have build the house predictor on Real Estate House using the Machine Learning Algorithm followed by Machine Learning Cycle

Certifications and Awards

· **Job Certificate as AI Engineer at Wellness Innovation (worked under TeachLead of AutoML at Google)**

· **Data Science & Business Analytics Internship**

· **Generative AI for Everyone**

· **Cascading Style Sheets (CSS) assessment on Linkedin - 2022**

· **English Proficiency certificate**

Hobbies

· Exploring AI blogs and articles to fuel new system ideas.

· Tackling coding challenges to enhance problem-solving.

· Learning daily to stay ahead in AI and software.

· Playing strategy games to boost creativity and critical thinking.