





Usama Hassan

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Skills

- Python | C++ | SQL | R | Tensorflow | PyTorch | Django | RestAPI | Matlab | JQuery | NLTK
- Deep Learning | Data Analytics | NLP | Computer Vision | GANs | Diffusion Models | Cloud Computing
- Relational Databases | Data Pipelines | AI Algorithms | GUI Programming | Simulations | Git | OOP

Experience

Freelance at Fiver/Upwork (ML Engineer)

Sept. 2021 - Present

- Worked on **more than hundred projects** that targeted different domains of AI skills.
- These projects helped me boost professional skills and gain confidence.
- Gained **level 2 seller** batch on Fiverr working with different clients and agencies.

AI researcher

- Worked with the **2 Masters students** with their research thesis as a **second author**.
- Both studies were based on the deep learning for the estimation of **Renewable energy resources**.

Projects

Medical Visual Question Answering using DenseCap

- The goal was to generate the **medical report analysis for screening tests of Lungs** .
- Used **hybrid model** of CNN and LSTM with attention to output text analysis based on **X-rays images**.
- It challenged me catering the problems including images and text at a time.

Semantic Segmentation using Pre-trained Models

- The main aim of this project was to predict **Segmentation of different Image regions** .
- Used **DeeplabV3+ and SAM architecture** to predict the masks with **mIOU score**.
- This project helped me understand the images features extraction much better with global context.

Estimation of Valence-Arousal for Facial Expression using Pre-trained Models

- The aim was to estimate the multi-output as **valence-arousal values and facial emotions** .
- Used **EfficientNetB0 and ResNeXt** to predict the **regression and classification** values of emotions.
- The behavior of multi-output model improved performance of the model.

OpenAI based Realtime Trading bot deployed using Django

- In this project, we **forecasted** the open market value and create **monthly report** of the companies .
- Used to predict the **regression and classification** values of emotions.
- Deep Reinforcement Learning algorithms generalized the whole problem end-to-end.

Large Language Models (LLM) application using LangChain

- **Build a Chatbot application** using LangChain framework for the Large Language Models.
- It helped me gain an experience on building LLM applications using **transformer architectures**.

Education

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

Sept. 2022 - Present

Masters in Artificial Intelligence

Islamabad, PK

Bahauddin Zakariya University, Multan

Nov. 2017 - Oct. 2021

Bachelors in Electrical Engineering (Electrical)

Multan, PK