USAMA IFTIKHAR BUTT

MACHINE LEARNING ENGINEER

CONTACT

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Lahore

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SKILLS

Python | Tensorflow | CLIP | LlamaIndex | Langchain | RAG Models | LLMs | FastAPI | YOLO | BERT | Stable Diffusion | NLTK | Grounding DINO | Docker | Transformers | React.js | Control Net | Git/Github | MongoDB | PostgreSQL | Nginx | Linux | MERN | AWS | EC2 | S3 | CI/CD

PROFILE

I am a Machine Learning professional with expertise in Generative Modeling, specializing in Natural Language and Computer Vision. I specialize in fine-tuning existing machine learning tools, including GPT-3, BERT, Stable Diffusion, transformers and YOLO. I have a proven track record of delivering innovative and efficient solutions, such as improving sentiment analysis using GPT-3, optimizing image recognition with YOLO and enhancing text classification with BERT.

EXPERIENCE

Axcelerate.ai

MACHINE LEARNING ENGINEER

Lahore | May 2023 - Present

I am responsible for a broad spectrum of machine learning engineering tasks, which includes utilizing cutting-edge models, conducting experiments and ensuring their seamless integration into production environments to drive real-world impact. Here are some key projects:

- A virtual renovation project aims to envision houses in innovative ways by employing cutting-edge models like **Stable Diffusion**, **SAM** and **ControlNet**.
- Leveraging state-of-the-art methods like **LORA**, we achieve stable diffusion for virtual try-ons.
- A zero-shot object detection system based on **Grounding DINO** and **CLIP**.
- An object detection project, with a focus on localizing features within images, effectively utilizes **YOLO** for accurate results.

Vacon.ai

MACHINE LEARNING ENGINEER

Lahore | July 2022 - May 2023

During my time at Vacon.ai, my responsibilities extended beyond machine learning engineering as I also played a pivotal role in integrating these solutions with frontend technologies, such as React.js. Throughout my tenure, I made significant contributions to a variety of industry-focused projects. Here are a few noteworthy examples:

- Created a multi-model chatbot using **RAG** that offers human-like responses by analyzing website data, YouTube content and raw documents. This interactive interface incorporates text, images and YouTube videos while efficiently retaining past interactions.
- Development of a document retrieval system, employing **Haystack** model, which efficiently retrieves relevant documents from extensive corpora in response to user queries.

- Streamlining recruitment with machine learning-driven extraction of education, job experience, and skills from resumes to identify top candidates.
- A facial recognition system employing **AWS Rekognition** for improved security and access control.

CERTIFICATES

DEEP LEARNING IN TENSORFLOW

OBJECT-ORIENTED PROGRAMMING IN PYTHON

INTRODUCTION TO DEEP LEARNING IN PYTHON

INTRODUCTION TO TENSORFLOW IN PYTHON

BUILD BASIC GENERATIVE ADVERSARIAL NETWORKS (GANS)

AWS ACADEMY INTRODUCTION TO CLOUD

ACHIEVEMENTS

4.00 CGPA

From PUCIT in MPhil

MOST MOTIVATED EMPLOYEE

I was praised as most motivated employee of the company in Sep 2022

INTERESTS

CYBER SECURITY

LEX FRIDMAN PODCAST

DEVOPS

PROGRAMMING

MUSIC

EDUCATION

MPHIL DATA SCIENCE

CGPA: 4.00

PUCIT | 2021 - 2023

- Machine learning
- Natural language processing
- Cloud computing
- Deep learning
- Digital image processing

BS COMPUTER SCIENCE

CGPA: 3.20

University of Gujrat | 2017 - 2021

- Artificial Intelligence
- Data Structures
- Web System & Technology
- Data Mining
- Database Systems processing
- Object Oriented Programming

PERSONAL & FREELANCE PROJECTS

LICENSE PLATE SUPER RESOLUTION

This is my MPhil thesis. The objective is to utilize advanced techniques such as **diffusion models** to achieve super-resolution of license plate images that are initially blurry.

YOUTUBE RECOMMENDER SYSTEM

Constructed a YouTube video **recommender system** utilizing YouTube video datasets, where I implemented **cosine similarity** to provide users with tailored video recommendations.

LIBRARY MANAGEMENT SYSTEM

I designed and developed a full stack library management system using the **MERN stack**, covering both front-end and back-end components.

SYNTHETIC IMAGE GENERATION WITH GANS

The objective is to generate fake facial images utilizing cutting-edge **Generative Adversarial Network (GAN)** technology.

DISEASE IDENTIFIER IN PLANTS

Developed a state-of-the-art machine learning model utilizing **CNNs** to accurately detect diseases in Potato plants.

WEB SCRAPING

My freelance journey has involved extensive **web scraping** using a range of tools and frameworks, such as **BeautifulSoup** and **Selenium** in Python, as well as **Puppeteer** and **Cheerio** in Node.js.