Ahmad Liaqat

Machine Learning Engineer

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Summary

Machine Learning Engineer with a strong foundation in TensorFlow. Skilled in transforming complex challenges into impactful AI solutions, with a proven track record in audio signal processing, generative models, and chatbot development. Expert in integrating CNNs and Transformers for image synthesis, achieving significant improvements in accuracy and performance. Holds an NLP specialization and actively leverages state-of-the-art techniques to address real-world applications.

Education

GIFT University 2019 – 2023
Bachelor's of Science In Computer Science *Gujranwala, Pakistan*

- **Related Coursework:** Machine Learning, Artificial Intelligence, Natural Language Processing, Data Structures and Algorithms, Database Systems.
- **Dean's Award:** First Position in Final Year Project, received funding from Ignite for project development

Experience

Devster Labs May 2024 – Present
Artificial Intelligence Engineer *Islamabad, Pakistan*

- Optimized audio processing models, achieving a 3% reduction in processing time.
- Enhanced user engagement by 8% through generative AI applications.
- Increased customer query resolution by 10% using Hugging Face, Vertex AI, and OpenAI-based chatbot solutions.
- Achieved a 2% increase in sound event detection accuracy.
- Implemented cross-functional AI solutions, reducing integration time by 30%.

GIFT University Feb 2023 - May 2024
Research Assistant *Gujranwala, Pakistan*

- Achieved 80% accuracy in sketch-to-image synthesis, surpassing state-of-the-art benchmarks.
- Enhanced CNN-based recognition by 5%, contributing to research publications and conferences.
- Specialized in GANs for diverse image synthesis, implementing advanced architectures like Pix2Pix and CycleGAN and more for Image to Image Translation.

CodSoft Oct 2023 - Nov 2023
Machine Learning Intern - Remote *Kolkata, West Bengal Headquarters, India*

- Improved captioning accuracy by 13% using CNN-RNN architecture with Attention mechanisms.
- Enhanced recommendation systems' click-through rates by 25% through collaborative filtering.

Publications

Locally-Focused Face Representation for Sketch-to-Image Generation Using Noise-Induced Refinement | *DICTA 2024*

- Presented at Digital Image Computing: Techniques and Applications 2024, Perth, Australia
- This paper introduces a novel approach for sketch-to-image generation, focusing on localized face representation with noise-induced refinement to enhance visual accuracy and realism

Projects

Human Sketch-to-Face Conversion | *Confidential*

- Tech used: Python, Pytorch, GANs, CNN, Autoencoders
- Developed a GAN-Autoencoder model to convert human sketches to realistic images with feature extraction techniques.

Sound Event Detection System | *Confidential*

- Tech used: Python, TensorFlow, Keras, Librosa
- Built a deep learning-based sound event detection system with 7% improvement in accuracy, and reducing latency by 2% in real-time detection

Other Projects | *GitHub*

- Tech used: Python, Sci-kit learn, Pandas, Numpy, PyTorch, CNN, RNN
- Developed and implemented a variety of machine learning models, including:
  * Image Segmentation using U-net, FCN-8 architecture
  * Image captioning using a combined CNN-RNN architecture, with a 10% improvement in accuracy using attention mechanisms.
  * A movie recommendation system leveraging the TMDB dataset, resulting in a 5% enhancement in recommendation accuracy.
  * Simple transformer models for language translation and other basic machine learning tasks.

Skills & Interests

Technical Python, TensorFlow, PyTorch, Flask, REST APIs, Natural Language Processing (NLP), Convolutional Neural Networks (CNNs), Generative Adversarial Networks (GANs), Git, Agile Methodology, Problem Solving, Hardworking, Quick Learner, Deep Learning

Languages English (Fluent), Urdu (Professional)

Interests Image Processing, AI Applications in Gaming, Audio Signal Processing, Machine Learning Research

Hobbies Video gaming, watching sports matches, Visiting Northern Areas, Cooking, and sometimes reading Books or Blogs.

Certification & Awards

Machine Learning Specialization | *2022*

- Completed Machine Learning Specialization from Coursera by Prof. Andrew NG.

Natural Language Processing Specialization | *2024*

- Completed Natural Language Processing Specialization from DeepLearning.AI by Younes Bensouda Mourri and Łukasz Kaiser, instructors at Stanford University.

DeepLearning.AI TensorFlow Developer Professional Certificate | *2024*

- Completed DeepLearning.AI TensorFlow Developer Specialization from DeepLearning.AI by Laurence Moroney and Andrew NG., instructors at Stanford University.

AI Hackathon 2nd Runner Up | *2023*

- Issued by PAK-UK Academic Bridge and hosted by Comsats Wah Islamabad, Aug 2023
- Our project "Crime-Sniffer" was among the top 2 out of 158 submissions.

Google Cloud Skills Badges | *2024*

- Earned badges including Introduction to Generative AI, Introduction to Image Generation, Encoder-Decoder Architecture, Attention Mechanism, Responsible AI, Prompt Design in Vertex AI, and Large Language Models.