

DAWOOD SARFRAZ

Machine Learning Engineer

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Dawood Sarfraz

Website

Lahore, Pakistan

EDUCATION

FAST National University of Computer and Emerging Sciences

Bachelor's in Computer Science

Sep 2020 - Sep 2024

SKILLS

Languages: Python, C++, SQL

Tools: Git, Postman, Docker, Kubernetes, Jenkins, AWS

Libraries: FastAPI, Flask, Streamlit

ML Libraries & Frameworks: PyTorch, scikit-learn, TensorFlow, Keras, NumPy, Matplotlib, SciPy, Pandas, Seaborn, NLTK, spaCy, OpenCV, Yolo

GenAI Libraries & Frameworks: LangChain, Weaviate DB, RAG, Crew AI, Llama3, LlamaIndex

EXPERIENCE

Deutics Global

Jan 2025 – Present

Associate Machine Learning Engineer

On-site

- Developed and optimized a real-time video analytics system by converting RTSP streams to WebRTC for efficient live video processing.
- Implemented advanced tracking algorithms (SORT, DeepSORT, ByteTrack) for real-time object tracking across frames, enabling movement monitoring and direction estimation.
- Designed and developed real-time object detection, direction estimation, and counting systems to analyze traffic density, monitor congestion, and enhance traffic flow management.
- Built and optimized algorithms for wait time estimation, queue detection, speed calculation, and traffic light violation detection to improve traffic efficiency, enforce road regulations, and optimize signal timing.
- Implemented line and zone intrusion detection to monitor restricted areas, enhance security, and enforce access regulations.

FAST NUCES

Sep 2023 – Sep 2024

Machine Learning Engineer (Research Intern)

On-site

- Worked on a project focused on classifying skin cancer using CNN, ShuffleNet, and NasNet models, gaining experience in medical data processing and deep learning architectures.

Anonymous Tree

Jun 2023 – Aug 2023

Machine Learning Engineer Intern

Remote

- Developed a recommendation system using user data, item metadata, and techniques like content-based, collaborative filtering for personalized product suggestions.

PROJECTS

Skin Cancer Classification using NasNet and ShuffleNet

- Developed deep learning models (Custom CNN, NasNet, ShuffleNet) for multi-class skin cancer classification using the HAM10000 dataset. Enhanced accuracy with batch normalization, dropout, and Adamax optimizer, achieving the highest accuracy with NasNet and improved efficiency with ShuffleNet.

LlamaAssist [Project Link](#)

- LLama Assist is an AI-powered application built with LLama 3.2 3B and LLama 3.2 Vision. It allows users to generate assignments with customizable output length and difficulty, save content into text files, and interact with images via AI-driven chat. Perfect for creating and managing assignments with ease and precision.

RoboText Classifier [Project Link](#)

- Built a text classification model using RoBERTa and NLTK. Enhanced performance with dynamic masking, sentence packing, byte-level BPE vocabulary, and larger batch sizes for efficient, accurate classification of diverse text.

Duplicate Questions Pair [Project Link](#)

- Built a model to identify and detect duplicate question pairs using Random Forest, XGBoost, and Decision Tree classifiers. Achieved 90% accuracy with XGBoost classifier.