

Ahad Raza

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SUMMARY

Passionate Computer Science student specializing in Artificial Intelligence, Machine Learning, and Generative AI with expertise in building production-ready AI systems. Proven track record in developing multimodal applications, implementing transformer architectures, and deploying end-to-end ML solutions. Strong technical foundation combined with practical experience in modern AI frameworks and deployment technologies.

EDUCATION

Bachelor of Computer Sciences | FAST NUCES - Islamabad Campus | September 2021 – September 2025

- **CGPA:** 3.33/4.0
- **Relevant Coursework:** Generative AI, Deep Learning for Perception, MLOps, Artificial Intelligence, Machine Learning for Robotics, Database Systems, Design and Analysis of Algorithms, Probability and Statistics

WORK EXPERIENCE

Research Assistant | Artificial Intelligence & Machine Learning (AIM'S) Lab | November 2024 – Present | Islamabad

- Conducted comprehensive literature reviews and studied recent research papers in deep learning, computer vision, and natural language processing.
- Implemented and reproduced results from state-of-the-art ML/AI research papers to validate methodologies and ensure reproducibility.
- Assisted in end-to-end machine learning pipeline including data preprocessing, model experimentation, hyperparameter tuning, and comprehensive result evaluation.

PROJECTS

FraudLock: Deepfake Detection using Multi-Modal Learning with Mobile App (Final Year Project)

- Developed a sophisticated multi-modal deep learning model achieving 89.7% accuracy on 5,000+ deepfake videos, detecting lip-audio desynchronization with 89% precision and facial inconsistencies with 91% recall.
- Built cross-platform Flutter mobile application with <15-second inference time for video analysis, featuring intuitive UI for seamless deepfake detection with 87% accuracy maintained on mobile devices during testing phase.

IntelliRAG: Multimodal RAG System for Document Intelligence

- Built end-to-end retrieval-augmented generation system processing 1,000+ documents across text, tables, and images, achieving 0.5 hit rate in cross-modal querying with 2.6-second average response time and multimodal retrieval capabilities across financial document corpus.
- Deployed Flask-based conversational interface with ChromaDB vector database and CLIP embeddings, achieving BLEU score of 0.004, ROUGE-L of 0.067, and METEOR score of 0.149 with Docker containerization and comprehensive evaluation across text, table, and image modalities.

TruthScanAI: Multi-Agent Fake News Detection System

- Designed collaborative multi-agent system achieving 90.9% accuracy on 8,750+ news articles, combining fine-tuned DeBERTa-v3 model (F1: 0.91) with knowledge graphs (FactKG, Wikidata) and LIWC-based bias detection, outperforming RoBERTa baseline by 1.4% accuracy improvement.
- Implemented trust score calculation algorithm with Flask-based web interface achieving <1-second inference time and 80% average trust score accuracy across transformer architectures with Docker containerization and comprehensive evaluation metrics.

CycleGAN for Sketch-to-Face Translation

- Built a CycleGAN architecture for bidirectional translation between face images and artistic sketches.
- Deployed Flask-based web application with user-friendly interface for real-time image uploads and conversion, achieving 3-4 second conversion time with Docker containerization.

English-to-Urdu Machine Translation using Transformers

- Implemented transformer-based neural machine translation system for English-to-Urdu language pairs achieving BLEU score of 0.46 and 69.3% token-level accuracy on parallel corpus datasets with comprehensive evaluation across varying sentence lengths and linguistic complexity patterns.
- Evaluated model performance using BLEU scores and implemented attention visualization techniques for interpretability analysis.

Smart Traffic Monitoring System with YOLO and R-CNN

- Developed comprehensive vehicle detection system achieving 23.3 FPS with YOLO and 8.9 FPS with R-CNN, processing 254 video dataset with 73% agreement rate between detectors and speed estimation ranges of 15-36 km/h average across different traffic scenarios.
- Built Flask web application with GUI for video upload and ROI selection, supporting frame-by-frame vehicle counting and Docker containerization.

ACHIEVEMENTS

1st Place Hackathon Winner | AIO Company | November 2023

- Led team to 1st place victory among 40+ competing teams in AI hackathon.

Gold Medalist (Semester III) | August 2022 – December 2022

- Achieved outstanding 3.94 GPA, reflecting academic excellence and dedication

TECHNICAL EXPERTISE

- **Programming Languages:** Python, C/C++, SQL, JavaScript, Dart, MATLAB
- **AI/ML Frameworks:** TensorFlow, PyTorch, Keras, scikit-learn, OpenCV, Hugging Face Transformers
- **Generative AI & LLMs:** OpenAI API, LangChain, CLIP, BLIP, Sentence Transformers, Vector Databases
- **Data Science:** Pandas, NumPy, Matplotlib, Seaborn, Plotly, Jupyter Notebooks
- **Databases:** SQL, NoSQL, ChromaDB, FAISS, Vector Databases
- **Web & Mobile Development:** Flask, Streamlit, HTML/CSS, REST APIs
- **MLOps & DevOps:** Docker, MLflow, Apache Airflow, Grafana, Prometheus, Git, GitHub

CORE COMPETENCIES

- **Technical Skills:** Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Generative AI, Robotics
- **Mathematics:** Linear Algebra, Calculus, Differential Equations, Statistics, Probability, Numerical Methods
- **Soft Skills:** Problem-Solving, Team Collaboration, Project Management, Technical Writing, Adaptability

LANGUAGES

English (Advanced), Urdu (Native), Punjabi (Native)
