S M Zubeen

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WORK EXPERIENCE

Airport Authority of India

internship *Apr 2025 - Present*

- Engineered a Retrieval-Augmented Generation (RAG) system by integrating advanced data retrieval algorithms, resulting in a 40% reduction in response latency and enhancing overall system efficiency.
- Optimized the RAG architecture through iterative testing and fine-tuning, achieving a 25% increase in information accuracy and delivering more relevant outputs for end-users.

SKILLS & INTERESTS

Skills: Programming Languages: Python,SQL,java

Data Management: Data Analysis, Data Cleaning and Preprocessing,SQL

Computer Vision: OpenCV, Tensorflow, Mediapipe, EasyOCR, Pyteseract

Frameworks & Tools: Tensorflow, Pytorch, Mediapipe, Matplotlib, NLTK, Langchain

Other: FL Studio, Premire Pro

PROJECT EXPERIENCE

Deepfake Audio Detection Tool

- Engineered a Deepfake Audio Detection system utilizing VGGish architecture combined with the Convolutional Block Attention Module (CBAM), resulting in a 30% increase in classification accuracy
- Developed a comprehensive pipeline for audio preprocessing and spectrogram generation that facilitated real-time detection of tampered audio inputs, achieving processing speeds up to 50% faster.

Video Segmentation and Impainting

- Implemented SAM for video object segmentation in coordination with partners, with an accuracy of 85% in recognition.
- Currently leveraging problem-solving skills to investigate Latent Diffusion models like VideoLDM to increase frame coherence and object replacement by 20%.

Indian Sign Language Analysis

- Gesture recognition through the use of Mediapipe, TensorFlow, and OpenCV to refine object detection models.
- Achieved 82% accuracy by iteratively refining the model based on feedback and test results.

Drowsiness Detection

- Annotated over 1,000 photos in the dataset, enhancing team productivity and raising model accuracy by 10%
- Employed systematic troubleshooting methods to rectify model errors in YOLOv5, achieving an impressive accuracy of 87%, which outperformed the prior RCNN results by a significant margin of 15%

EDUCATION

Guru Tegh Bahadur Institute of Technology **Rajouri Garden, New Delhi**

B. Tech (AI-ML)

Arunodaya Public School **Karkardooma, New Delhi**

Senior Secondary