Muhammad Hamza Jadoon

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Summary

Recent BS graduate in Artificial Intelligence with hands-on experience in machine learning, deep learning, and natural language processing. Passionate about leveraging AI for innovative solutions and problem-solving, with proven success in projects involving multimodal models, chatbot development, and creative AI generation.

Education

FAST University *Aug 2020 to Jul 2024*
BS in Artificial Intelligence

Work Experience

ML intern *Islamabad*
VisionX Technologies *Aug 2024 to Nov 2024*

- Finetuned LayoutLMv3 multimodal model to extract key-value pairs from shipping and billing documents
- Implemented Token classification for Named Entity Recognition
- Achieved more than 90% accuracy in identifying key-value pairs on all biling labels

Projects

Healthcare Analytics RAG Chatbot with Neo4j Integration

- Developed a chatbot using Retrieval-Augmented Generation (RAG) to query and retrieve information stored in a Neo4j database
- Implemented natural language processing techniques to interpret user queries and convert them into Cypher queries
- Integrated the chatbot with Neo4j's graph database to provide accurate and context-aware responses

Real-Time Helmet Compliance Detection with YOLOv8

- Fine-tuned YOLOv8n on a helmet detection dataset, distinguishing between 'With Helmet' and 'Without Helmet' classes.
- Converted Pascal VOC annotations to YOLO format and created train/validation splits, including bounding box normalization.
- Deployed the model for real-time helmet detection using a webcam, enabling live tracking and prediction

FLAN-T5 LLM Fine-tuning for Style Transfer

- Fine-tuned the FLAN-T5 language model for generating high-quality, stylistically diverse poems
- Utilized transfer learning techniques to adapt the pre-trained FLAN-T5 model for the specific task of poem generation based on poet and content inputs
- Metrics like perplexity, BLEU scores, and custom poetry-specific measures to assess the quality, creativity, and stylistic accuracy of generated poems

Technologies

Languages: Python, SQL, c++

Machine Learning / Deep Learning: TensorFlow, PyTorch, Scikit-learn, Keras, NLTK, spaCy

Cloud Platforms: AWS, Google Cloud Platform, Azure

Tools & Frameworks: Docker, Git, Jupyter, Pandas, NumPy, Matplotlib, Seaborn