Reema Abdelrazeq

Data Scientist

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Summary

Data scientist with practical expertise in deep learning, NLP, and LLM fine-tuning. Experienced in architecting and deploying AI models for tasks such as fraud detection, damage classification from satellite imagery, and abstractive text generation. Skilled in manipulating structured and unstructured datasets, applying advanced preprocessing techniques. Proficient with tools and frameworks including Hugging Face Transformers, TensorFlow, and PyTorch with a strong background in model evaluation, hyperparameter tuning, and optimizing performance metrics.

Education

Bachelor of Data Science and AI, Tafila Technical University **2020-2024**

GPA :87.5 (Excellent)

Experience

Umniah | Technical Support intern **Aug 2023 – Oct 2023**

- Provided technical assistance to users by diagnosing hardware and software issues.
- Learned to prioritize and manage tasks efficiently
- Ensured that user requests and technical issues were addressed within established timelines.

Certificates & Courses

- Deep Learning with TensorFlow 2 | 356DataScience **Nov 2024**
- Intro to machine learning | Kaggle **Oct 2024**
- Intermediate machine learning | Kaggle **Oct 2024**
- Intro to Gen AI & Prompt Engineering | Manara**:** **Oct 2024**
- Introduction to AI and machine learning
- Deep learning fundamentals
- Computer Vision
- Introduction to generative AI technology
- GPTs and LLMs

- Stable diffusion

Skills

- Machine Learning & AI: End-to-end model development, hyperparameter tuning, and production deployment
- Deep Learning: Proficient in CNNs, RNNs, Transformers, and transfer learning techniques
- Data Preprocessing: Skilled in data cleaning, augmentation, and handling class imbalance
- Programming Languages: Python (advanced proficiency)
- ML Frameworks & Libraries: TensorFlow, PyTorch, Scikit-learn
- Data Manipulation & Visualization: Pandas, NumPy, Matplotlib, Seaborn
- Soft Skills: Strong problem-solving, analytical thinking, and attention to detail
- Languages: Fluent in English

Projects

- **AI-Powered LinkedIn Post Generator [GitHub Repo]**
- Developed an AI-based system that generates LinkedIn posts in Arabic and English with customizable lengths.
- Collected and processed a small number of real LinkedIn posts, ensuring diversity in topics and writing style.
- Used prompts to fine-tune LLaMA 3.2-90B through Groq API on these posts to enhance content generation accuracy and coherence.
- Built a simple interactive Streamlit interface, allowing users to specify post length, topic, and language.

- **Credit Card Fraud Detection using Deep Learning [GitHub Repo]**
- Designed and implemented a deep learning model to detect fraudulent credit card transactions using a highly imbalanced dataset.
- The model was built with a neural network architecture in Keras, leveraging techniques such as class weight balancing and dropout to address overfitting.
- The model achieved 99.99% accuracy on the training set and 99.95% accuracy on the test set.
- Performance was evaluated through various metrics, including precision, recall, and F1-score, achieving impressive results in fraud detection.

- **Abstractive Dialogue Summarization Using T5 transformer [GitHub Repo]**
- Developed a simple abstract text summarization model using the T5 transformer on the SamSum dataset.
- Fine-tuned the model to generate concise summaries of dialogues, capturing key information while maintaining fluency and coherence.
- Implemented tokenization, training, and evaluation using Hugging Face's transformers library, achieving significant improvements in summary generation.
- Demonstrated the model's capability to summarize complex conversations into short but clear summaries.

- **Natural Disaster Damage Identification from Satellite Images Using CNNs [GitHub Repo]**
- Designed and deployed a CNN-based model for automated damage classification from satellite images.
- Applied data augmentation (rotation ,zoom, flipping) on the training dataset and addressed class imbalance through stratified splitting and class weights.
- Optimized hyperparameters and architecture to improve accuracy.
- Evaluated the model using precision, recall, and F1-score for imbalanced classes.
- Achieved an accuracy of 97% . And the model demonstrated real-world applicability by accurately identifying damage across various disaster types