Ashish Upadhyay

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EDUCATION

Graphic Era Deemed to be University Dehradun, UK
Bachelor of Technology 2020 - 2024
Computer Science and Technology (ML&AI)
CGPA: 8.88

EXPERIENCE

Research at Graphic Era Deemed to be University Dehradun, UK
Research intern Jun 2023 – Aug 2023

- Worked on research for brain seizure detection using transformer learning on a time series data set for 21 patients.
- The data was segmented and fed to the transformer, which then performed with an accuracy of 98%.
- Gained knowledge about transformers and how to work with large time series data.

PROJECTS

LLM based query-response system Sept 2024

- Developed a full-stack web application using Flask and Streamlit to handle dynamic web scraping and query processing, integrating data from up to 50 websites.
- Implemented advanced web scraping techniques to extract and process text content. Retrieval-Augmented Generation was implemented to extract relevant content.
- Utilized FAISS for efficient text embedding and retrieval, managing embeddings for 1000+ text chunks and enabling rapid retrieval of the most relevant content.
- Achieved a speedup of over 85% after the implementation of multithreading for concurrent scraping and embedding.
- Integrated Gemini API for context-aware responses, leveraging LLM capabilities to generate accurate and contextually relevant answers based on user queries and scraped data.
- Achieved a seamless user experience with a Streamlit frontend and Flask backend, handling requests and responses in under 90 seconds for complex queries and multiple site extractions.

Handwritten character recognition using TensorFlow and tkinter Jul 2023

- Developed a deep learning model using TensorFlow to predict handwritten alphabetical characters from EMNIST.
- The code includes data preprocessing, model training, and inference stages. Achieved successful integration of the model with the image processing techniques using OpenCV and utilized tkinter for real time user input.
- The model had an accuracy of 92%.

Content based movie recommendation system Feb 2023

- Developed a model by implementing NLP to analyze genres, keywords, taglines, cast, and director features from metadata of over 5000 movies.
- Applied tf-idf vectorization and cosine similarity to transform textual movie features into numerical representation and further rank them based on the similarity score which ranged from 0(least similar) to 1(most similar).
- Applied sorting and filtering to provide a list of top matches.

ACHIEVEMENTS & CERTIFICATIONS

Achievements: Participated in Level 1 and Level 1.1: E. Commerce and Tech quiz of Flipkart GRiD 4.0 - Software Development Challenge organized by Flipkart.
Certifications: AI-900 Microsoft Azure AI Fundamentals, CLF-C01 AWS Cloud Practitioner

ADDITIONAL INFORMATION

Languages and frameworks: C, C++, Python, TensorFlow
Operating Systems: Windows, Linux
Software: MS-Office Suite, Adobe Photoshop, Sony Vegas Pro
Hobbies: Sketching, Solving Puzzles, Listening to music