Yuvraj Singh

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Experience

Clinical AI Assistance | *Research intern* Dec. 2023 – March 2024

- Used HuggingFace API to use various LLMs to test our generated response to the original ones
- Data Gathering and cleaning
- Data Analysis
- Model Building

AIISC | *Research intern* March. 2024 – Present

- Working with Prof. Amitava Das on Prevention of Hallucination in LLMs
- Part of the Data Generation Team

Skills

Languages: C++, Python, Dart
Frameworks: Tensorflow, Keras, Flutter, Flask
NLP: RNN, LSTM, Bi-LSTM, Word2Vec, Fasttext, LLMs
Machine Learning: Supervised and Unsupervised Algorithms
Deep Learning: ANN, CNN, OpenCV, YOLOv8, Seq2Seq (Encoder-Decoder, Autoencoders)
Tools: Streamlit, Git, Github, Render, HuggingFace API, Firebase, GCP (VM Instances)

Projects

Movie Review System WebApp | *Spoiler-Free Sentiment-Analysis based Movies Review System)* 2023

* **Role**: Team Lead
* **Vision/Goal**: To provide an interface to allow users to read spoiler-free reviews along with a touch of sentiment analysis (on reviews) for a better viewing experience.
* **Solution**: Made use of the a Machine Learning model(sentiment analysis) using Voting Classifier(SVC+Logistic Regression) and Deep learning model(spoiler v/s non-spoiler) using Bi-LSTMs after thorough preprocessing and custom trained Word2Vec.
* **Result**: Successfully built the said WebApp with Streamlit as front-end. Achieved an accuracy of 91 % with precision 91 % and recall 90 %.
* **Tools**: Keras, Tensorflow, Word2Vec (Word Embeddings), Bi-LSTMs, NLTK, Spacy, Streamlit, Render

MoviesMania | *A Reverse Search based Movies Recommendation System(Geek-o-thon @IIIT-BH)* 2023

* **Role**: Team Lead
* **Vision/Goal**: To provide an interface to users to find similar movies/web-series recommendations based on an uploaded video clip/YT Short.
* **Solution**: To make use of the various faces of actors in the provided clip and the details provided(title, genre, plot) for the prediction of the movie's title (if available in the dataset) or similar movies/web series.
* **Result**: Prediction of movie's title(if available in the dataset) with 78% accuracy and similar movies with 85% accuracy.
* **Tools**: Keras, Tensorflow, Word2Vec (Word Embeddings), MTCNN, NLTK, Spacy, VGGFace, OpenCV, Streamlit, Render

Insight-Ed (HackNITR 5.0) | *EdTech Platform for Student and Teacher* 2024

- **Role**: Backend (AI/ML+Server)
- **Vision/Goal**: Our solution tries to bridge the knowledge gap between a teacher and a student in online classes by leveraging the power of AI to provide the teacher and student with insights to better prepare themselves for the course/lecture.
- **Solution**: Implemented features such as- Detection of Emotion and Attentiveness of a Student for better understanding of student's understanding of a topic, Topic Modelling to know exactly where he/she lost attention, QnA with uploaded PDFs (Handwritten/Printed) along with any Videos/Tutorials and Reverse Video Search to quickly look for any concepts in the same.
- **Tools**: Flask, Python, Gemini API, Whisper API, HuggingFace Open-Source Models (EmotionLLM), MTCNN, LangChain, Cloud Run, GCP(VM)

Education

IIIT Bhubaneswar June 2027
BTech Computer Science Engineering *CGPA: 7.94(1st Semester)*

Delhi Public School 2022-23
CBSE Grade 12 *Percentage: 91*

Amity International School 2021-22
CBSE Grade 10 *Percentage: 96*

Achievements

Geek-o-thon (D3 @IIIT-BH) 2023
Led the winning project (MoviesMania) at D3 2023, inter-college hackathon in AI/ML domain