Yuvraj Singh

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EXPERIENCE

Clinical AI Assistance | *Research intern* Dec. 2023 – Present

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

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

PlogPayouts | *(GDSC Google Solution Challenge 2024)* 2024

- ∗ **Role**: Team Lead
- ∗ **Vision/Goal**: Developing a social platform integrating plogging and waste segregation, incentivizing users with monetary rewards for clean-up efforts. Prioritizing user well-being aims to improve garbage collectors' status while promoting a healthier environment.
- ∗ **Solution**: Created an app and a website as a solution and implemented features such as categorization of trash collected, counting them and offering monetary benefits which will only take place when the Verifier has received and verified your trash. A mask and gloves detection for safety of the participants and also, Nearest Trash site Locations Mapping using Genetic Algorithms to cater to user jogging timings.
- ∗ **Tech Stack**:
  - · **Frontend**:
  - · **Website**: HTML, CSS, JavaScript, Bootstrap
  - · **App**: Flutter
  - · **Backend**:
  - · **Server**: Flask and Python
  - · **Storage and APIs**: Django, Firebase (Realtime Database, Firestore, Storage, Authentication APIs)
  - · **AI/ML Models**: Custom models trained with Keras, OpenCV, YOLOv8
  - · **Genetic Algorithm**: (For Best and Efficient Map Routes for Users)
  - · **Tools**: Docker, MapBox API, Google Cloud Platform, Render

MoviesMania | *Improved 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

News App | *Multi-class News Classification WebApp (Proof of Concept*   2023

* **Vision/Goal**: To provide an interface for users to find news under certain categories such as Tech, World, Business and Sports
* **Solution**: Made use of the AGI news Kaggle dataset, NLP-based preprocessing techniques along with custom-trained Word2Vec model along with Bi-LSTM model.
* **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

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

* **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

EDUCATION

IIIT Bhubaneswar   June 2027
BTech Computer Science Engineering

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

JEE Mains   2023
Secured 97.7 percentile in JEE Mains 2023

SOF IMO   2019
International Rank 6 @SOF IMO

SOF IMO
Medal of Distinction

SOF IMO
Gold Medal in National Mathematical Olympiad Contest