MANISH KUMAR

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EXPERIENCE

Machine Learning Engineer-Sensara Technologies India

📅 Feb 2022-Present   📍 Bangalore, India

- Led efforts in the end-to-end dynamic scene and chapter generation through video segmentation, utilizing clustering, speech and music detection, sound classification, camera shot boundary detection, and rule-based algorithms tailored for different types of videos.
- Led efforts in end-to-end cricket match highlight generation through video segmentation, clustering, frame classification, high-intensity sound detection, Replay detection, camera shot boundary detection, and various rule-based algorithms.
- Led efforts in song detection in videos, which involved video segmentation, speech detection, music detection, and various sound detection.
- Developed state-of-the-art models for accurate language detection and efficient speech-to-text conversion, enabling precise transcription for diverse Indian languages.
- Led efforts in implementing text summarization techniques utilizing LLM models. Generated concise and coherent summaries, title for various videos.
- Spearheaded the deployment of a speaker diarization model for movies and TV shows, enabling accurate dialogue mapping to characters and enhancing video content analysis.
- Developed an end-to-end solution to enhance user engagement for TV shows by extracting binge markers and recap sections.

Data Scientist-Neal Analytics

📅 July 2021-January 2022   📍 Pune, India

- Automated the record classification, entity extraction process, entity visualization. It helps the clients to get important information about the document in real-time. Integrated custom regex in the spacy pipeline.

EDUCATION

M.Tech - Computer Science and Automation

Indian Institute Of Science, Bangalore

📅 July 19 – June 21

B.Tech - Computer Science and Engineering

DCRUST Murthal, Haryana

📅 July 2014 – June 2018

ACADEMIC ACHIEVEMENTS

- Secured **99.77 percentile** in Graduate Aptitude Test in Engineering (CS) 2019 amongst around 1 Lakh aspirants.
- **Coordinator** of online workshop "Learn LaTeX for Research" premiered on YouTube.
- Selected for HSTES university scholarship by State Govt of Haryana.
- **Cleared BARC Exam** in 2019 Computer Science Stream.

SKILLS

- **Proficient :** Python, Deep Learning, LLM Models, Generative AI, C++, Pytorch, Keras, Linux, Docker, LaTeX, Excel, NLP.
- **Familiar With :** C, AWS, AzureML, Tensorflow, Databricks, PySpark, scikit-learn, SQL.

COURSES

- Practical Data Science, Design & Analysis of Algorithms, Natural Language Processing, Deep Learning, Linear Algebra & Probability, Computational Geometry & Topology

PROJECTS

Tweet Sentiment Extraction

- Extracted the support phrases for sentiment labels from context text.
- Extended **BERT** model as Question & Answering model.
- Mapped transformers from token level to character level.

Mechanism of Action: Drug Discovery

- Classification of drugs based on their activity, Multi-label classification problem
- Transformed tabular data to image for CNN's
- Used Tabnet model, stacking of models.

Aspect Based Sentiment Analysis

- Implemented the BERT sentence pair classification model, which computes aspect for text/sentence.
- Computed the sentiment of text/sentence based on the aspect computed by the model.

Recommendation System

- Implemented Movie Rating System, which rated movies based on user-item similarities available in the Netflix dataset.
- Used Content Filtering, Collaborative Filtering, Hybrid Recommender to make movie recommendations.

New Image Generation using Generative Models

- The model generates new images by using the training dataset.
- Implemented Generative Adversarial Network, Auto Encoders, Supervised models.

ML Algorithms

- Developed a model to Predict the survival of person from given boarding details using Logistic Regression, SVM, Neural Network etc on Titanic Dataset.
- Implemented ML methods such as Random Forrest, Gradient Boosting, XGBOOST, LightGBM for a Regression task which predicts the price label using House price dataset.