NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2025 - 2026

Batch Number	AB4
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Guide	Sd.Rizwana M.Tech ., (Ph.D).
Title	Performance-Driven Text Classification on MovieLens-100K Using FLAN-T5 and BART
Domain/Technology	NATURAL LANGUAGE PROCESSING
Base Paper Link	https://ieeexplore.ieee.org/document/10720773
Dataset Link	http://files.grouplens.org/datasets/movielens/ml-100k.zip
Software Requirements	Browser: Any latest browser like Chrome Operating System: Windows 7 Server or later Python (COLAB)
Hardware Requirements	System Type: Intel Core i5 or above RAM: 8 GB Number of cores:5 Number of Threads: 4
Abstract	Accurate genre prediction and tailored suggestions are important to enhancing the usability and quality of user interaction on online streaming platforms. At present, recom- mender systems, such as collaborative filtering and conventional deep learning methods, can often be problematic in terms of interpretability, sparsity, and the cold-start problem. This study presents a performance-based framework that leverages two transformer-based natural language processing models, FLAN- T5 and BART, to improve both accuracy in genre classification and recommendations co-optimally. The evaluation method in- volves using the MovieLens-100K dataset (100,000 user ratings on 1,682 movies). FLAN-T5 was utilized to generate summaries and extract semantic features, while the classification task was accomplished via BART in a zero-shot classification style for genre prediction from a predefined list of genres. The suggested way generates movie summaries from audio subtitle data and already enriched context information. The results indicate that the proposed framework achieved competitive performance with a best accuracy of 92% and an F1-score of 0.85 for genre predictions. The novelty of this work lies in relating FLAN-T5 for summarization, BART for zero-shot multi-label classification, and explanations via LIME for interpretability, thus addressing both predictive performance and transparency in recommendation systems.

Signature of the student(s) **Signature of the Guide** **Signature of the project coordinator**