Universiti Teknologi MARA

Drama Recommender System Using Collaborative Filtering

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ABSTRACT

This thesis focused on developing a Drama Recommender System using collaborative filtering techniques to help users find dramas that match their preferences. The motivation behind this project was to address the challenge users face in selecting dramas from an overwhelming number of options. The system analyzes user preferences and viewing behavior to generate personalized recommendations, enhancing the drama-watching experience. The methodology followed a structured approach, beginning with a preliminary phase that involved conducting a literature review on recommendation systems and collecting a dataset from sources such as Kaggle. The dataset consisted of drama metadata. Data cleaning was performed to handle missing values, remove duplicates, and standardize formats, ensuring consistency and accuracy. In the system design and feature extraction phase, the architecture was developed to support efficient data processing and recommendation generation. TF-IDF (Term Frequency-Inverse Document Frequency) was applied to extract relevant textual features from drama descriptions, while cosine similarity was used to measure relationships between dramas. The implementation and evaluation phase involved developing the recommender system using Python, Pandas, NumPy, and Scikit-learn. The system's performance was assessed using accuracy, precision, recall, and F1-score, achieving values of 0.77, 0.85, 0.89, and 0.87, respectively. These results demonstrate that the system effectively provided high-quality and relevant recommendations, improving user satisfaction and helping users discover lesser-known dramas. To further enhance recommendation quality, content-based filtering was incorporated to analyze drama attributes such as genres, actors, and directors, ensuring a more diverse range of suggestions. Future improvements include integrating trend-based recommendations, personalized watchlists, and interactive user feedback to refine the recommendation process and enhance user engagement. By continuously refining the system with advanced techniques and incorporating user feedback, the Drama Recommender System can evolve into a highly adaptive and intelligent platform, delivering even more relevant, diverse, and satisfying recommendations to users.

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