Artificial Intelligence and Machine Learning

PROJECT ABSTRACT

Movie Recommendation System

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TITLE: A machine learning-based Movie Recommendation System for Personalized user experience.

ABSTRACT:

In the era of digital media, the abundance of movie choices can be overwhelming for users. A Machine Learning-based Movie Recommendation System aims to alleviate this problem by providing personalized movie recommendations, enhancing user experience and satisfaction.

The system leverages Machine Learning (ML) algorithms to analyze user behavior and preferences, movie metadata, and user-movie interactions. It employs techniques such as Collaborative Filtering, Content-Based Filtering, and Hybrid methods. Collaborative Filtering predicts a user's interest by collecting preferences from many users, assuming that those who agreed in the past will agree in the future. Content-Based Filtering recommends movies similar to the ones the user liked in the past, based on movie features. Hybrid methods combine these techniques to leverage their strengths and mitigate their weaknesses.

The system's ML models are trained on a large dataset of user ratings and movie metadata. The models learn to predict a user's rating for a movie they haven't seen based on their past behavior and the behavior of similar users. The system then recommends the movies with the highest predicted ratings.

The system also incorporates a feedback loop, allowing it to learn and adapt to changing user preferences over time. It continually updates the ML models with new user-movie interactions, ensuring the recommendations stay relevant and personalized.

This Movie Recommendation System not only enhances user experience by providing personalized recommendations but also benefits movie platforms by increasing user engagement and retention. It represents a significant advancement in the field of recommendation systems and has broad implications for the future of digital media consumption.

In conclusion, the Machine Learning-based Movie Recommendation System is a powerful tool for personalizing digital media consumption. It uses advanced ML techniques to provide users with movie recommendations tailored to their unique

tastes and preferences, enhancing their experience and satisfaction. This system signifies a step forward in the utilization of ML for personalization in digital media. It holds promise for further advancements in this field, with potential applications extending beyond movie recommendations to other forms of digital media.