

ABSTRACT

In the digital era, online streaming platforms like Netflix have revolutionized the way audiences enjoy movies by offering an extensive selection of content. However, this abundance poses a challenge for users to find movies that align with their preferences. Recommender systems have become a key solution to personalize user experiences. Nevertheless, conventional recommender systems often fail to provide personal and relevant suggestions that meet the dynamic and evolving needs of individuals. To address this limitation, this study proposes the development of a recommender system based on collaborative filtering using TimeSVD++, designed to capture changes in user preferences by considering temporal effects and leveraging implicit feedback. The proposed method utilizes a dataset comprising 45,874 user interactions and integrates adaptive time weights, which reflect the distribution of user interactions throughout the week, along with normalized interaction scores to measure user engagement. This combination produces more accurate interaction weights to train the model and enhance the relevance of recommendations. Evaluation results demonstrate that TimeSVD++ significantly outperforms traditional SVD++, with improvements in Precision@10 from 0.5478 to 0.6859, Recall@10 from 0.8828 to 0.9365, and NDCG@10 from 0.7699 to 0.9581. By leveraging the advantages of TimeSVD++, the study shows that the integration of temporal dimensions and implicit feedback effectively enhances the accuracy of recommender systems, delivering more relevant suggestions and providing a more personalized user experience.

Keywords: collaborative filtering, movie recommender system, recommender system based on temporal, TimeSVD++, user preferences.