Abstract

The fashion industry is rapidly evolving in the digital age. Consumers are becoming more knowledgeable and expect tailored and precise shopping experiences. The dynamic nature of fashion trends, influenced by seasons, culture, and specific social events, creates a demand for recommendation systems that can adapt to these changes. A recommendation system utilizing a Collaborative Filtering approach that considers time can offer relevant product suggestions based on the preferences of users with similar tastes. However, the application of Time-Based Collaborative Filtering in fashion products has yet to be extensively studied. This research aims to create a fashion product recommendation system that incorporates time and seasonality through a Time-Based Collaborative Filtering method. This system integrates the Singular Value Decomposition model with a time component to enhance the accuracy of rating predictions. By factoring in the time context, the system can deliver recommendations that are more personalized and relevant to the current moment. The system's accuracy is evaluated using MAE and RMSE metrics. Test results indicate that the Time-Based method outperforms others, achieving an MAE of 0.763 and an RMSE of 0.992.

Index Terms

Fashion Product Recommender System, Time-Based Collaborative Filtering, Singular Value Decomposition, Seasonal Context.