

## ABSTRACT

The advancement of digital technology has driven the growing need for recommendation systems that are capable of filtering vast amounts of information in a personalized and contextually relevant manner. This study develops a movie recommendation model based on explicit user ratings by implementing the Alternating Least Squares (ALS) algorithm. The dataset used in this research is sourced from MovieLens sample dataset and is represented in the form of a user–item interaction matrix, which is subsequently factorized into two low-dimensional latent feature matrices representing users and items, respectively. The model is trained using 90% of the data as the training set, while the remaining 10% is allocated as the test set to evaluate predictive performance. The model's accuracy is assessed using Root Mean Square Error (RMSE) and Mean Absolute Error (MAE), yielding values of 0.9015 and 0.7019. These results demonstrate that the model is capable of generating accurate and personalized predictions. Overall, the findings suggest that the ALS algorithm is effective for constructing rating-based recommendation model and has potential for broader implementation in various real-world applications.

**Keywords:** recommendation model, explicit rating, Collaborative Filtering, matrix factorization, Alternating Least Squares, RMSE, MAE.