

Abstract

Currently, there is so much food information offered to everyone that it makes confusion in making choices. However, with the recommendation system, these problems can be resolved. This research aims to create a recommendation system using the User Based Collaborative Filtering method with the Pearson Correlation and Cosine Similarity algorithms. Both algorithms will be applied to the "Amazon Fine Food Reviews" dataset which has imbalance characteristics. It is expected to determine which of the two algorithms is better to apply to the recommendation system created. In the trials conducted in this study, two parameters were used, namely, cold start threshold and K in the 5-fold cross-validation scheme. From the trial results, the best results were obtained for Pearson Correlation, the best performance was MAE 0.6335, MSE 2.6132, RMSE 0.8083, Precision 0.8141, Recall 0.4662, F1-Score 0.5801, Accuracy 0.4721, Specificity 0.5996, FPR 0.1859, NDCG 0.9861. Meanwhile, Cosine Similarity gets the best performance of MAE 0.8417, MSE 3.4206, RMSE 0.9247, Precision 0.8315, Recall 0.1392, F1-Score 0.2380, Accuracy 0.3074, Specificity 0.9616, FPR 0.1685, and NDCG 0.9816.

Keywords: collaborative filtering, recommender system, Pearson Correlation similarity, Cosine Similarity