Abstract

Recommendation system helps people to choose books, articles, films, music, electronics, and others to find items or information of the most interesting and useful for them. But one of the problems faced by the recommendation system is a cold-start problem. In the cold-start problem, recommendation system faces difficult in providing recommendations to the user due to several factors. Cold-start can be categorized into three types: namely recommend an existing item to a new user, recommend new items to existing users, and recommend new items for the new user. Pairwise preference regression is one method that overcome the cold-start problems directly, this method can make recommendations not only to the user who does not have historical rating but also has little demographic information. From the results of the test was obtained the best Normalized Discounted Cumulative Gain (nDGC) value of the system is 0.8484 and the result of the recommendations generated by the system has a standard deviation of 1.24 with an average of 3.82.

Keywords **:** *recommender system, pairwise preference regression, cold-start problems, normalized Discounted Cumulative Gain*