ABSTRACT

Recommender Systems is a system that provides information recommendations to users from a data. Taking and filtering that information is sometimes quite difficult because of the large amount of data and low data distribution so to do that required a good method and appropriate one to handle the problem. One way to handle this is to use a method that can solve the problem, one of which is using Collaborative Filtering, or more specifically by using Matrix Factorization. However, this is not enough because Matrix Factorization can not handle data with low data distribution so well. To that end, the authors propose to develop the technique using a kernel and bayesian probabilistic method called Kernelized Bayesian Matrix Factorization. The method simplifies the prediction process and maximizes the accuracy level compared to using Matrix Factorization. In the test, the authors used the movielens datasets with one million ratings and the performance of the Kernelized Bayesian Matrix Factorization method was not very good in terms of time for the training process, but good enough in the test process in time related calculations also that there was an increase in accuracy and impairment of error.

Key Words : *collaborative filtering, recommender system, matrix factorization, kernelized bayesian matrix factorization*