

Abstract

The Recommendation System can recommend books to certain users based on rating predictions, book content, or other methods. Many system recommendation methods are used such as *Probabilistic Matrix Factorization*, where content that has been rated will often be recommended. However, the *Probabilistic Matrix Factorization* has the disadvantage of overcoming data that has a rare rating value. So we need a method used to understand the context of the contents of the book so that it is not only seen from the rating but also seen from a book review. To study the review, a method called *Convolutional Neural Network* is used by giving a vector value that leads to the context of the book to the *Probabilistic Matrix Factorization* of a recommender system. Based on the test results, this method can improve the accuracy of the data with MAE = 3.0114707. As for the Probabilistic Matrix Factorization the MAE= 4.0185377. From these values it can be explained that the *Convolutional Neural Network* and *Probabilistic Matrix Factorization* methods work well enough for data that rarely has a rating.

Keywords: Recommender system, Probabilistic Matrix Factorization, Convolutional Neural Network
