ABSTRACT

The rapid development of the Japanese animation industry has produce tons of anime movies which made interest to groups of people. Each anime movie has its own characteristic which complies with specific user's interests. Therefore, a personalization engine was needed to provide recommendations. The use of collaborative filtering based recommender system that only takes into account historic explicit interactions (such as rating) was able to provide recommendations. However, we might able to improve the personalization by taking into account the users' and items' side information. Our contributions in this paper are follows. First, we collected 301,136 ratings provided by 116,126 users to 9,444 anime works in which crawled from MyAnimeList, as well as users' and items' side information. Second, we proposed a deep learning method that incorporates side information from both users and anime works into a hybrid model. This model learns the embedding separately for users and anime, in which we also add a LSTM layer to extract information from long text feature like Synopsis which will be combined and feed into a deep neural network to predict the rating of given user and anime work. And finally, we experimented and calculated the performance. The result shows that the model with side information gain result around 5% better than the SVD model.

Keywords: Recommender System, Deep Learning, Artificial Neural Network, LSTM, Anime