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# Movie Recommendation Based on Bridging Movie Feature and User Interest

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Highlights

This paper aims to solve two main issues of the traditional collaborative filtering algorithms:

- bad performance in the case of data sparsity;
- difficult to track the change of user interest.
  Method in this paper is:

A novel hybrid recommendation algorithm is proposed by bridging the movie feature and user interest. The movie feature vector is formed based on the attributes of the movie, and is combined with the user rating matrix to generate the user interest vector. The movie feature vector and user interest vector are mutually updated in an iterative way, and then the user similarity matrix is constructed based on the user interest vector, which is usually difficult to be obtained in the case of data sparsity. Furthermore, the long-term and short-term interests are considered in the generation of the user interest vector, which aims to make the recommendation results adapt to the change of user interest.

Abstract: The traditional collaborative filtering algorithms have bad performance in the case of data sparsity, and are difficult to track the change of user interest. Even though many improved algorithms are proposed to solve these problems, it is still necessary for further improvement. In this paper, a novel hybrid recommendation algorithm is proposed to resolve the two issues by bridging the movie feature and user interest. In the proposed algorithm, the movie feature vector is formed based on the attributes of the movie, and is combined with the user rating matrix to generate the user interest vector. The movie feature vector and user interest vector are mutually updated in an iterative way, and then the user similarity matrix is constructed based on the user interest vector, which is usually difficult to be obtained in the case of data sparsity. Furthermore, the long-term and short-term interests are considered in the generation of the user interest vector, which aims to make the recommendation results adapt to the change of user interest. The experiments on the Movielens dataset show that the proposed algorithm outperforms some existing recommendation algorithms on recommendation accuracy.

The authors declare that there is no conflict of interest regarding the publication of this paper.