

عنوان مقاله:

Identifying Abnormal Behavior of Users in Recommender Systems

محل انتشار:

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خلاصه مقاله:

Abstract— Nowadays, we deal with a large volume of information that we may have wrong choices without appropriate guidance. To this end, recommender systems are proposed which are a type of information filtering system that acts as a filter and displays information that is useful and close to the user s interests. They reduce the volume of the retrieved information and help users to select relevant products from millions of choices available on the internet. However, since these systems use explicitly and implicitly collected information about the user s interests for different items to predict the user s favorite items, the adversaries due to their openness nature might attack them. Therefore, identifying them is essential to improve the quality of the recommendations. For this purpose, in this paper, a method based on two criteria of a maximum number of users with the equal length and the degree of novelty of their profiles is presented and finally, the DBSCAN clustering algorithm is used to distinguish genuine users from fake users. In order to improve the DBSCAN algorithm, we proposed a new method to determine the values of Eps and MinPts automatically. The results of the proposed method are compared with a new comparative study on shilling detection methods for trustworthy recommendations, which shows that the proposed method independent of the type .of attack can identify fake users in most cases with accuracy close to 1

کلمات کلیدی:

Recommender systems, Shilling Attack, Abnormal Behavior, Novelty Degree Of User's Profile

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