Abstract

E-Commerce recommender systems are affected by various kinds of profile-injection attacks where several fake user profiles are entered into the system to influence the recommendations made to the users. We have used Partition around Medoid (PAM) and Enhanced Clustering Large Applications Based on Randomized Search (ECLARANS) clustering algorithms of detecting such attacks by using outlier analysis. In user rating dataset, attack-profiles are considered as outliers in these algorithms. Firstly, we have used PAM and ECLARANS clustering algorithm in detecting the attack-profiles. These both algorithms have been applied for evaluating the performance of the system in identifying the attack profiles when they enter into the system. Experiments show that an accuracy of ECLARANS algorithm for detection of profile-injection attack for E-commerce recommender system is more than PAM clustering algorithm.

References

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Index Terms

Computer Science
Software Engineering
Keywords

PAM  ECLARANS  Outlier Analysis  Recommender System  profile-injection attack  Attack-profile.