

عنوان مقاله:

Introducing an algorithm for use to hide sensitive association rules through perturb technique

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خلاصه مقاله:

Due to the rapid growth of data mining technology, obtaining private data on users through this technology becomes easier. Association Rules Mining is one of the data mining techniques to extract useful patterns in the form of association rules. One of the main problems in applying this technique on databases is the disclosure of sensitive data by endangering security and privacy. Hiding the association rules is one of the methods to preserve privacy and it is a main subject in the field of data mining and database security, for which several algorithms with different approaches are presented so far. An algorithm to hide sensitive association rules with a heuristic approach is presented in this article, where the Perturb technique based on reducing confidence or support rules is applied with the attempt to remove the considered item from a transaction with the highest weight by allocating weight to the items and transactions. Efficiency is measured by the failure criteria of hiding, number of lost rules and ghost rules, and execution time. The obtained results of this study are assessed and compared with two known FHSAR and RRLR algorithms, based on two real databases (dense and sparse). The results indicate that the number of lost rules in all experiments are reduced by 47% in comparison with RRLR and reduced by 23% in comparison with FHSAR. Moreover, the other undesirable side effects, in this proposed algorithm in the worst case are equal to that of the base .algorithms

کلمات کلیدی:

data mining, Association rule hiding, Privacy preserving data mining

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