Abstract

Association rule mining is a powerful model of data mining used for finding hidden patterns in large databases. One of the great challenges of data mining is to protect the confidentiality of sensitive patterns when releasing database to third parties. Association rule hiding algorithms sanitize database such that certain sensitive association rules cannot be discovered through association rule mining techniques. In this study, we propose two algorithms, ADSRRC (Advanced Decrease Support of R. H. S. items of Rule Cluster) and RRLR (Remove and Reinsert L. H. S. of Rule), for hiding sensitive association rules. Both algorithms are developed to overcome limitations of existing rule hiding algorithm DSRRC (Decrease Support of R. H. S. items of Rule Cluster). Algorithm ADSRRC overcomes limitation of multiple sorting in database as well as it selects transaction to be modified based on different criteria than DSRRC algorithm. Algorithm RRLR overcomes limitation of hiding rules having multiple R. H. S. items. Experimental results show that both proposed algorithms outperform DSRRC in terms of side effects generated and data quality in most cases.
Association Rule Hiding by Heuristic Approach to Reduce Side Effects and Hide Multiple R. H. S. Items

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Index Terms

Computer Science Security

Keywords

Association Rule Hiding Data Mining Privacy Preservation Data Mining