Abstract

One of the major concerns in the field of knowledge discovery is the interestingness problem and the unreasonable number of association rules being mined. The past studies confirm that although a large number of rules are mined for each query, they do not seem to satisfy user's expectations. The methods already proposed in the literature like post-processing and algorithms to reduce itemsets and nonredundant rules do not always guarantee mining of interesting rules for the user. In conventional Data Mining, the usefulness of association rules is limited by the huge amount of delivered rules. In this paper we propose a new interactive approach Onto-Mine to trim and filter the discovered rules. We propose to integrate user knowledge in association rule mining by combining Domain Ontology and interactive intelligence. First, we use Domain and Background Ontology with user knowledge and this interactive intelligence of Onto-Mine assists the user throughout the analyzing task and helps the user in selection of rules and also to revise the information that is proposed. Moreover ranking algorithm is used for retrieval of frequently accessed rules and the concept of privacy is enforced while mining. By applying the proposed approach the number of rules will be considerably reduced improving user productivity.
Mining Association Rules using Domain Ontology and Hefting

References

- Jiawei Han. and Yongjian Fu. 1999. Mining Multiple Level Association Rules from Large Databases. IEEE Transactions on Knowledge and Data Engineering. Vol 11. Issue 5. Page 798-805.
Mining Association Rules using Domain Ontology and Hefting


Index Terms

Computer Science  Artificial Intelligence

Keywords

Association Rule  Colander  FP Tree  Hefting  item set  Onto-Mine  Knowledge Discovery
Post mining