Abstract

In this paper, we address the problem of closed pattern mining from n-ary relations. We propose CnS-Miner algorithm which enumerates all the closed patterns of the given n-dimensional dataset in depth first manner satisfying the user specified minimum size constraints. From the given input, the CnS-Miner algorithm generates an n-ary tree and visits the tree in depth first manner. We have proposed a generalized duplicate pruning method which prunes the subtrees that generate duplicate patterns. The space complexity of our algorithm is O(D+d) where D is the n-ary dataset and d is the depth of the tree. We have experimentally compared the proposed algorithm with DataPeeler, a recently proposed algorithm for closed pattern mining from n-ary relations.

Reference

[1] Loïc Cerf, Jérémy Besson, Céline Robardet, and Jean-François Boulicaut, "Closed Patterns meet n-ary relations", ACM Transactions on Knowledge Discovery from Data, Vol 3,
Closed Pattern Mining from n-ary Relations


Index Terms

Computer Science          Database Management

Key words

Data Mining

Closed Patterns

Algorithms