Data Summarization Approach to Relational Domain Learning Based on Frequent Pattern to Support the Development of Decision Making.

Abstrak

A new approach is needed to handle huge dataset stored in multiple tables in a very-large database. Data mining and Knowledge Discovery in Databases (KDD) promise to play a crucial role in the way people interact with databases, especially decision support databases where analysis and exploration operations are essential. In this paper, we present related works in Relational Data Mining, define the basic notions of data mining for decision support and the types of data aggregation as a means of categorizing or summarizing data. We then present a novel approach to relational domain learning to support the development of decision making models by introducing automated construction of hierarchical multi-attribute model for decision making. We will describe how relational dataset can naturally be handled to support the construction of hierarchical multi-attribute model by using relational aggregation based on pattern's distance. In this paper, we presents the prototype of "Dynamic Aggregation of Relational Attributes" (hence called DARA) that is capable of supporting the construction of hierarchical multi-attribute model for decision making. We experimentally show these results in a multi-relational domain that shows higher percentage of correctly classified instances and illustrate set of rules extracted from the relational domains to support decision-making.