On a Fuzzy Querying and Data Mining Interface.

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Abstract: In the paper an interface is proposed that combines flexible (fuzzy) querying and data mining functionality. The point of departure is the fuzzy querying interface designed and implemented previously by the present authors. It makes it possible to formulate and execute, against a traditional (crisp) database, queries containing imprecisely specified conditions. Here we discuss possibilities to extend it with some data mining features. More specifically, linguistic summarization of data (databases), as introduced by [R. R. Yager: On linguistic summaries of data. In: Knowledge Discovery in Databases (G. Piatetsky–Shapiro and W.J. Frawley, eds.), AAAI Press/The MIT Press, Menlo Park 1991, pp. 347–363.], is advocated as an interesting extension of simple querying. The link between linguistic (fuzzy) data summaries and association rules is discussed and exploited.