

The background features a complex, abstract design. It includes a network of thin, reddish-brown lines forming a web-like structure. Scattered throughout are small, multi-colored dots in shades of green, blue, and orange. On the left side, there is a vertical strip with a grid of small, light-colored squares. The overall color palette is muted, with earthy tones and soft pastels.

Mining Multi-Dimensional Associations

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- Single-dimensional rules (e.g., items are all in “product” dimension)

- $\text{buys}(X, \text{“milk”}) \Rightarrow \text{buys}(X, \text{“bread”})$

- Multi-dimensional rules (i.e., items in ≥ 2 dimensions or predicates)

- Inter-dimension association rules (*no repeated predicates*)

- $\text{age}(X, \text{“18-25”}) \wedge \text{occupation}(X, \text{“student”}) \Rightarrow \text{buys}(X, \text{“coke”})$

- Hybrid-dimension association rules (*repeated predicates*)

- $\text{age}(X, \text{“18-25”}) \wedge \text{buys}(X, \text{“popcorn”}) \Rightarrow \text{buys}(X, \text{“coke”})$

- Attributes can be categorical or numerical 对于 categorical 和 numerical (类型的

- Categorical Attributes (e.g., *profession, product*: no ordering among values): Data cube for inter-dimension association

数据系统，
可以使用的方法

- Quantitative Attributes: Numeric, implicit ordering among values—
(discretization, clustering, and gradient approaches)