

The background of the slide is a complex, abstract composition. It features a network of thin, reddish-brown lines connecting various points, creating a web-like structure. Scattered throughout are numerous small, 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. In the upper left corner, there is a small, semi-transparent inset showing a cluster of orange and red dots. The overall aesthetic is technical and data-driven.

Limitation of the Support- Confidence Framework

How to Judge if a Rule/Pattern Is Interesting?

- ❑ Pattern-mining will generate a large set of patterns/rules
 - ❑ Not all the generated patterns/rules are interesting
- ❑ Interestingness measures: Objective vs. subjective
 - ❑ Objective interestingness measures
 - ❑ Support, confidence, correlation, ...
 - ❑ Subjective interestingness measures: One man's trash could be another man's treasure
 - ❑ Query-based: Relevant to a user's particular request
 - ❑ Against one's knowledge-base: unexpected, freshness, timeliness
 - ❑ Visualization tools: Multi-dimensional, interactive examination

由数学公式定义, 非常客观

主观.

Limitation of the Support-Confidence Framework

- Are s and c interesting in association rules: " $A \Rightarrow B$ " [s, c]? **Be careful!**
- Example: Suppose one school may have the following statistics on # of students who may play basketball and/or eat cereal:

	play-basketball	not play-basketball	sum (row)
eat-cereal	400	350	750
not eat-cereal	200	50	250
sum(col.)	600	400	1000

2-way contingency table

- Association rule mining may generate the following:
 - $play\text{-}basketball \Rightarrow eat\text{-}cereal$ [40%, 66.7%] (higher s & c)
- But this strong association rule is misleading: The overall % of students eating cereal is 75% > 66.7%, a more telling rule:
 - $\neg play\text{-}basketball \Rightarrow eat\text{-}cereal$ [35%, 87.5%] (high s & c)

无法判定两式。