Snooperior

Discover the business rules that govern your real-world data.

The challenge
Organizations collect ever increasing amounts of data in an effort to gain competitive advantage. However data is rarely fit to help organizations make intelligent decisions without significant data cleaning, management, profiling and analysis.

Existing commercial technologies for data profiling are very popular. Their strengths include simplicity and well-designed user interface, yet they are basic in functionality. Current tools cannot discover important business rules from real-world data that are crippled by common errors and missing information, and can only be used on data sets located within the tools database. The end result is often analysis that is neither useful nor meaningful.

The solution
Snooperior is a single tool with a variety of algorithms which automatically discover all business rules (of a given type) that hold in any given data set. The novelty of the algorithms mean Snooperior is not limited to work with clean data. Options to specify permissible degrees of rule violations and the frequency by which these violations may occur, novel ways of processing missing information, and automatic ranking of rules through different parameters relinquish the burden of manually deciding which rules are more meaningful. Additionally, rules found through Snooperior can be applied to data cleansing, data integration, entity linking and duplicate detection, SQL database schema normalization, and the visualization of the database schema in the form of Entity-Relationship diagrams or UML models.

Competitive advantages
- Automatic discovery of meaningful business rules from inconsistent and incomplete data
- Higher precision by allowing users to control what frequency of violations are tolerable
- High recall through allowing users to control what degree of violations are tolerable
- Algorithms rank meaningfulness of rules according to user-defined measures
- Not limited to data in relational database systems
- Ability to apply rules for different data management tasks

Key aspects
- Easily and accurately understand the rules that data is governed by
- Enforce rules to keep data cleaner
- Apply rules to design schemata for better performance of queries and updates
- Employ rules to clean dirty data
- Visualize rules to illustrate relationships between data

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