Inconsistency Resolution In The Virtual Database Environment Using Fuzzy Logic

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ABSTRACT

Data integration from different data sources may result in data inconsistencies due to different representation of the same objects at the data source. Many researchers have tried to solve this problem manually or using source features. None of them took the user's preferences to source features into account. This paper proposes using fuzzy logic with multiple constraints, in accordance with user preference, to resolve inconsistencies. This approach uses token-based cleaner, a content based inconsistency detection algorithm, to detect inconsistencies. Then, uses fuzzy logic to resolve inconsistencies. An experiment was conducted using our fuzzy algorithm on a trained dataset that reflects our designated point of view. The result indicates that multiple constraints decision making is a suitable technique for resolving inconsistencies.

KEYWORDS

Data warehouses; Data analysis; Data integration; Fuzzy logic; Data processing.