Enabling fuzzy logic to enhance automatic schema matching / Akarajit Tanjana, Jian Qu

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Abstrak

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Automatic schema matching is a process to find correspondences among different data attributes from either databases or XML schemas. since there is an inconsistency for naming attributes, the schema matching which is done by humans is the most practical; however, it is time-consuming and incurs great expense. therefore, automatic schema matching process has been extensively studied in the past. Most works still face many challenges such as abbreviation, synonym, hypernym, and structural problems. Some existing works take schema name, instance, data type and schema description as internal resources while other works employ external resources, such as several online dictionaries and ontologies, to increase accuracy for schema matching.

In this paper, we address automatic matching problems by employing abbreviation, synonym, and hypernym lists; furthermore, we propose a novel structure similarity algorithm. Finally, we propose to use fuzzy logic, a novel fuzzy scoring algorithm to increase the accuracy of our system. as comparing our systems with existing works on open data; we find that our system outperforms existing works with an f-measure of 90%.