

Faculty of Computer Science CS6999 Reading Course

Semantic Matching Algorithms

By

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Semantic matching is important in research areas like databases, e- Business, case-based reasoning (CBR), information retrieval, information integration, web services and natural language processing. This talk centers on several well-known schema matching techniques and the semantic concept similarity measures in a taxonomy or an ontology. A schema is a set of elements connected by some structure, such as a tree or a graph. Schema matching problem takes two schemas as input and produces a mapping between elements of the two schemas that correspond semantically to each other. Sub problems of schema matching contain element matching, instance matching, and structure matching. Taxonomy or ontology is also a hierarchical structure that describes the relationship of the concepts in it. The semantic concept similarity in taxonomy or ontology considers the shortest path length between two concepts, the information contents carried by the concepts, the depth scaling of the concepts and the degree of the association between a child node and its parent(s). A survey of the semantic concept matching algorithms in taxonomy will be presented in the talk.