A Survey of Natural Language Query Builder Interface for Structured Databases using Dependency Parsing

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Abstract

Natural language query builder interface retrieves the required data from database when query is given in natural language. To retrieve the correct data from database, the user should have sufficient technical knowledge of Structured Query Language (SQL) statements. Natural Language Query Builder Interface (NLQBI) will solve this problem. In natural language parsing, getting highly accurate syntactic analysis is a crucial step. Parsing of natural languages can be seen as the process of mapping an input string or a sentence to its syntactic representation. One of the parsing technique is dependency parsing. Dependency parsing focuses on relations between words which resolve ambiguity. Most of the recent efficient algorithms for dependency parsing work by factoring the dependency trees. Graph based dependency parsing models are prevalent in dependency parsing because of their state-of-art accuracy and efficiency. This paper covers some recent developments in NLQBI systems and survey on dependency parsing techniques.

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Index Terms
- Computer Science
- Databases

Keywords
- Natural Language Query Builder Interface (NLQBI)
- Natural Language Processing (NLP)
- Dependency parsing
- Structured Query Language (SQL)

Projective and Non-projective Dependency Parsing

Data-driven Dependency Parsing

Transition-based models

Pseudo-projective parsing

Graph based models

Higher-order factorizations
Span