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.

References

- Mo Shen, Daisuke Kawahara, and Sadao Kurohashi, "Dependency Parsing
Reranking with Rich Subtree Features; IEEE transactions on audio, speech, and language processing, vol. 22, no. 7, July 2014
- Emily Pitler, &quot;A Crossing-Sensitive Third-Order Factorization for Dependency Parsing;&quot;, Transactions of the Association of Computational Linguistics -- Volume 2, Issue 1, 2014
- Zhenghua Li, Min Zhang, Wanxiang Che, Ting Liu, and Wenliang Chen, &quot;Joint Optimization for Chinese POS Tagging and Dependency Parsing;&quot; IEEE transactions on audio, speech, and language processing, vol. 22, no. 1, Jan 2014
- Preeti Verma, Kulwant Kaur, &quot;Recent Developments in Natural Language Interface to Database Systems;&quot;, International Journal of Innovation and Research in Computer Science, 2014
- Bohnet and J. Kuhn, &quot;The best of both worlds – a graph-based completion model for transition-based parsers.&quot; In Proceedings of EACL, pages 77–87. 2012
- T. Koo and M. Collins, &quot;Efficient third-order dependency parsers;&quot;, In Proc. ACL &apos;09, pp. 1–11, 2010
- Amandeep kaur &quot;Punjabi Language Interface to databases;&quot;, ME Thesis, Thapar University, June 2010
- Faraj A. El- Mouadib, Zakaria Suliman Zubi, Ahmed A. Almagrous, I. El- Feghi, &quot;Interactive Natural Language Interface (GINLIDB)&quot;, ISSN: 1109-2750 664 Issue 4, Volume 8, April 2009
- Yunyao Li, Huahai Yang, and H. V. Jagadish, &quot;NALIX: an Interactive Natural Language Interface for Querying XML;&quot;, 2006
- Manish R. Joshi, &quot;The ENLIGHT System Intelligent Natural Language Interface;&quot;, Department of Computer Science, North Maharashtra University, Jalgaon 2006
- Ryan McDonald, Fernando Pereira, &quot;Non-projective Dependency Parsing using Spanning Tree Algorithms;&quot; 2005
- Nivre, J., Hall, J. and Nilsson, J., &quot;Memory-Based Dependency Parsing;&quot; In Ng, H. T. and Riloff, E. (eds.) Proceedings of the Eighth Conference on Computational Natural Language Learning (CoNLL), pp. 49-56, 2004
- Christer Samuelsson, &quot;A theory of stochastic grammars;&quot;, In Proceedings of
A Survey of Natural Language Query Builder Interface for Structured Databases using Dependency Parsing

- Kubon, V, "A Robust Parser for Czech", Dissertation at MFF UK, Praha, manuscript.

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