POSTER

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Knowledge-poor and Knowledge-rich Approach in Anaphora Resolution Algorithms: a Comparison

ABSTRACT

We present an evaluation of three anaphora resolution algorithms – *GuiTAR*, *JavaRAP* and *MARS* – based on a subpart of the Susanne *Corpus*. The results were then compared to the *GETARUNS* system developed at Department of Language Sciences, Università Ca' Foscari, Venezia, by prof. Delmonte. Our aim was to highlight differences between the systems and to see if knowledge-poor approaches are suitable for *AR*, as they are much less labour-intensive and time-consuming than knowledge-rich systems.

1. INTRODUCTION

Anaphora resolution (*AR*) is a prominent topic in *NLP*, since in most application domains such as *Question Answering*, *Text Summarization* and *Information Extraction* there is an increasing need to collect and to implement semantically consistent information. It's been observed that anaphora extraction process should rely on a rule-based approach rather than on a statistical one, as anaphora (in our case pronoun binding) is a complex task involving functional and semantic aspects beside the syntactic ones.

In our study we carried out an evaluation of three state-of-the-art algorithms for *AR* based on a subpart of *Susanne corpus*. The texts used in similar evaluations were usually portions of scientific manuals, thus they were poor on pronouns and rich on nominal description. Our testbed, on the contrary, could be better compared because it was a collection of texts taken from newspaper articles and stories, counting 35,000 tokens and about 1,000 third person pronominal expressions.

2. THE ANAPHORA RESOLUTION ALGORITHMS

Two of the algorithms we evaluated – *GuiTAR* and *JavaRap* – use Charniak's statistical parser output, whereas MARS relies on a more sophisticated input provided by *Connexor FDG* parser (Tapanainen and Järvinen, 1997).