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Doctoral thesis's title:

Efficient parsing algorithms for free word order languages

Abstract:

This thesis aims to investigate a theoretical problem in the field of probabilistic grammars and to optimize the associated implementation issue.

The theoretical part is devoted to the issues of formal description of the free word order languages and their parsing algorithms. I consider methods of using probabilistic grammars to describe free order languages. I define the original formalism of probabilistic tree-generating binary grammars (PTgBG) that is a probabilistic extension of the TgBG formalism (tree-generating binary grammars). I present a parser that uses this formalism.

On the other hand, the objective of this thesis is to examine how the implementation of the parsing algorithm affect its performance. In particular, I present the process of adapting the parser to the natural language processing system. I analyze any difficulties encountered and evaluate the performance of the system at various stages of optimization. Finally, I present the conclusions.

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