Using Deduction Techniques for Natural Language Understanding

Michael Kohlhase

Universität des Saarlandes, Fachbereich Informatik,
Im Stadtwald, D-66041 Saarbrücken (Germany),
Email: kohlhase@cs.uni-sb.de

The talk emphasises the opportunity of using deduction methods in natural language understanding.

We start out by explaining some some of the usages of reasoning, such as common ground maintenance, discourse structure and coherence and semantic disambiguation using world knowledge.

The technical part of the talk takes a closer look at the application of first-order automated theorem proving- and model-generation techniques in all of these processes and investigates the necessary integration and communication between deduction systems and the linguistic modules.

In particular, I will show how the model-generation paradigm can be extended with mechanisms for anaphora, salience, resources to arrive at a better, cognitively and computationally more adequate account of the natural-language understanding process.