

Complexity of Dependency Representations for Natural Languages

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Most of the formal issues about the complexity of dependency representations are studied via various types of phrase structure grammars and their capabilities for representing dependencies. We will consider a particular kind of phrase structure grammar, well suited to describe various levels of complexity in the context of dependencies. We will relate these representations to some key linguistic issues and the corresponding parsing complexities. We hope that this work will give some further insight into the limits of dependency representations as well as the associated processing complexities.

Text Analysis for identifying Entities and their mentions in Indian languages

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The talk deals with the analysis of text at syntactic-semantic level to identify a common feature set which can work across various Indian languages for recognizing named entities and their mentions. The development of corpora and the method adopted to develop each module is discussed. The talk includes the evaluation of the common feature set using a statistical method which gives acceptable levels of recall and precision.

Modeling Non-Propositional Semantics

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By non-propositional semantics, we mean things other than semantic roles that are expressed in a single sentence and tend to be grammaticalized. These include tense, aspect, modality, existence, possession, causality, conditionality, comparison, quantification, and definiteness. Non-propositional semantic categories evade definition because they are prototypes, not discrete categories. The centroids match across languages, but the extensions of the prototypes do not match. Furthermore, the grammaticalization of non-propositional semantics varies widely, including lexical items, affixes, and syntactic constructions, making cross-linguistic models difficult. In this talk we will focus on definiteness. Definiteness differs widely in grammaticalization across languages. We will present an annotation scheme that captures the semantic points that are relevant for definiteness across languages and logistic regression model of definiteness for English.