

Corpus-based Learning of Presupposition Relations between Verbs

Presupposition is a relation between propositions that can be triggered by verbs: given (1), people can infer (2), due to their knowledge about the meaning of the verb *win*. Moreover, we can infer (2) from the negation of (1). *Presupposition* differs from other semantic relations that do not allow this inference, especially *entailment*, where 'persistence under negation' does not hold. Thus, in automatic inferencing tasks we need to distinguish presupposition from entailment, to avoid illicit inferences.

- (1) Spain won/didn't win the finals of the 2012 World Cup.
- (2) Spain played the finals of the 2012 World Cup.

Tremper and Frank 2013 develop a corpus-based method for acquiring presupposition triggering verbs along with verbal relations that express their presupposed meaning. We approach this difficult task using a discriminative classification method that jointly determines and distinguishes a broader set of inferential semantic relations between verbs, including presupposition, entailment, troponymy and antonymy.

In this talk we will focus on the following aspects of our approach: (i) a discriminative analysis of the semantic properties of the chosen set of relations, (ii) the selection of features for corpus-based classification and (iii) design decisions for the manual annotation of fine-grained semantic relations between verbs. (iv) We present the results of a practical annotation effort leading to a gold standard resource for our relation inventory, and (v) we report results for automatic classification of our target set of fine-grained semantic relations, including presupposition. We achieve a classification performance of 55% F1-score, a 100% improvement over a best-feature baseline.