Textual Entailment

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Abstract

Recognizing Textual Entailment is the task of determining, for example, that the sentence: ”Google files for its long awaited IPO” entails that ”Google goes public”. Determining whether the meaning of a given text passage entails that of another or whether they have the same meaning is a fundamental problem in natural language understanding that requires the ability to abstract over the inherent syntactic and semantic variability in natural language. This challenge is at the heart of many natural language understanding tasks including Question Answering, Information Retrieval and Extraction, Machine Translation, and others that attempt to reason about and capture the meaning of linguistic expressions. The task has attracted significant interest over the last couple of years mainly fostered by the PASCAL Recognizing Textual Entailment Challenge (RTE). A substantial number of papers on these topics have been published in major conferences and workshops in the last couple of years.

The primary goals of this tutorial are to review the framework of applied Textual Entailment and motivate it as a generic paradigm for natural language semantics. We will present some of the key computational approaches proposed and some of the obstacles identified by the research community in this area, as a way to promote further research. The tutorial will thus be useful for many of the senior and junior researchers that have prior or new interest in this area, providing a concise overview of recent perspectives and research results.

Tutorial Outline

1. Motivation and Task Definition
   - Textual Entailment as a generic (application independent) semantic inference test.
2. A Skeletal review of Textual Entailment Systems
   - A survey of existing approaches: a unified perspective.
3. Knowledge Acquisition Methods
4. Applications of Textual Entailment
   - Proposing ways to use generic entailment models in specific applications.
5. A Textual Entailment view of Semantics
   - Textual Entailment as a vehicle for the study of old and new semantic phenomena.