Recognizing Textual Entailment, QA4MRE, and Machine Reading

Peter Clark
Vulcan Inc. Seattle, WA, 98104, USA
peterc@vulcan.com

Abstract

Machine Reading remains one of the Grand Challenges of Artificial Intelligence, and also one of the most difficult. Machine Reading requires more than just parsing a text; it requires constructing a coherent internal model of the world which that text is describing, including inferring facts that are implicit in the text. One basic operation required for this is to infer or recognize Textual Entailment (TE), i.e., recognize plausible implications of a fragment of text. In this talk I will discuss the overall goal of Machine Reading, and the role of Recognizing Textual Entailment (RTE) within it.

I will describe how we modified an RTE system for the QA4MRE challenge, and illustrate where it worked, where it failed but could be fixed, and where it has fundamental limitations. I will then turn to the larger task of Machine Reading in the context of QA4MRE, and discuss two major challenges it elicits, namely the requirement for knowledge, and the requirement for evidential reasoning. Finally I will offer some reflections on how these might be addressed, with the aim of moving from sentence-matching strategies towards model-building strategies, and ultimately towards machines that can read.