

Extracting Positive Attributions from Scientific Papers

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Abstract. The aim of our work is to provide support for reading (or skimming) scientific papers. In this paper we report on the task to identify concepts or terms with positive attributions in scientific papers. This task is challenging as it requires the analysis of the relationship between a concept or term and its sentiment expression. Furthermore, the context of the expression needs to be inspected. We propose an incremental knowledge acquisition framework to tackle these challenges. With our framework we could rapidly (within 2 days of an expert's time) develop a prototype system to identify positive attributions in scientific papers. The resulting system achieves high precision (above 74%) and high recall rates (above 88%) in our initial experiments on corpora of scientific papers. It also drastically outperforms baseline machine learning algorithms trained on the same data.