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MINING OPINIONS BASED ON INTEGRATION OF DOMAIN CONCEPTS AND RANKING SYSTEMS

Abstract:

This research proposes a novel opinion mining approach, which combines domain concepts and ranking systems from word of mouth documents to build an adaptive sentiment lexicon for sentiment classification. The main task of opinion mining is to detect subjective information in the text such as reviews, preferences, attitudes, etc., which extract the useful information for users to make a strategic decision. Some wide-scaled sentiment lexicons, such as SentiWordNet and SenticNet, are helpful to define sentiment scores for words, which are often used for mining opinions or sentiment analysis. However, the traditional sentiment lexicons are pre-defined and static so they cannot adapt to time and various domains. In this research, we build a contextual sentiment lexicon based on an integration of domain concepts and ranking systems. As related words are able to form some specific concepts from documents, we use a well-known common sense database, ConceptNet, for extraction of significant words from word of mouth documents. The traditional opinion mining model, which extracts sentiments from SentiWordNet 3.0, is treated as the benchmark in this research. We compare our proposed model, which extracts sentiments from the contextual sentiment lexicon and selects significant words from ConceptNet. According to the experiments, our model achieves higher classification accuracy than the traditional opinion model.

Keywords:

Word of Mouth;
Opinion Mining;
ConceptNet;
Feature Extraction;
Sentiment Lexicon

JEL Classification: D80, L86