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Abstract

Aspect-Based Sentiment Analysis (ABSA), a fine-grained task of opinion mining, which aims to extract sentiment of specific target from text, is an important task in many real-world applications, especially in the legal field. Therefore, in this paper, we study the problem of limitation of labeled training data required and ignorance of in-domain knowledge representation for End-to-End Aspect-Based Sentiment Analysis (E2E-ABSA) in legal field. We proposed a new method under deep learning framework, named Semi-ETEKGs, which applied E2E framework using knowledge graph (KG) embedding in legal field after data augmentation (DA). Specifically, we pre-trained the BERT embedding and in-domain KG embedding for unlabeled data and labeled data with case elements after DA, and then we put two embeddings into the E2E framework to classify the polarity of target-entity. Finally, we built a case-related dataset based on a popular benchmark for ABSA to prove the efficiency of Semi-ETEKGs, and experiments on case-related dataset from microblog comments show that our proposed model outperforms the other compared methods significantly.

Keywords: Semi-supervised learning ▪ sentiment analysis ▪ knowledge graph embedding