

Short text sentiment theme model for product review analysis

[摘要]

Abstract Topic and sentiment joint modelling has been successfully used in sentiment analysis for opinion text. However, we have to face the text sparse problem in opinion text when the length of text becomes shorter and shorter with popularity of smart devices. In this paper, we propose a joint sentiment-topic model SSTM (short-text sentiment-topic model) for short text. Unlike the topic model which models the generative process of each document, we directly model the generation of the whole review set. In the generation process of corpus, we sample a word-pair each time, in which the two words have the same sentiment label and topic. We apply SSTM to two real life social media datasets with three tasks. In the experiment, we demonstrate the effectiveness of the model on topic discovery by qualitative analysis. On the quantitative analysis of document level sentiment classification, SSTM model achieves better performance compared with the existing approaches.

Key words: Sentiment classification; sentiment topic model; topic model; short text topic mode; text sparse