

Polarity shift in opinion mining

Publisher: IEEE

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Abstract

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Abstract:

In recent times, the availability of online reviews is ever increasing. This results in opinion mining being one of the core areas of affective computing. Classification of opinions or sentiments is the core task in opinion mining. To accomplish this task, often Bag-Of-Words(BOW) is used as a feature for training a classifier in statistical machine learning. However, the fundamental limitations in handling the polarity shift problem in turn limits the performance of BOW in some cases. Also the external dictionaries used for generating training sets for opinion classification are not domain specific. This further limits the task of deriving the accurate sentiment or consumer opinion in certain cases. We address these two problems in opinion classification. To handle the problem of polarity shift, we propose a Dual Opinion mining Model. The data expansion technique used in this model creates a review which has opposite opinion as that of the original test review for each training and test review. Based on this we propose a dual training algorithm which uses the pairs of the original and the reversed review to learn an opinion classifier. A dual prediction algorithm is used for classification of test reviews by considering both positive and negative sides of each review. At the end we build a pseudo-opposites dictionary using a corpus based method. By this we tackle the problem of having to depend upon an external opposites dictionary for opposites of reviews. By doing this we also get a domain adaptive dictionary for training a classifier which increases the accuracy of the dual opinion mining model.

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