



RESEARCH ARTICLE

Sentiment Analysis Based Approaches for Understanding User Context in Web Content

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Abstract— In our day to day lives, we highly value the opinions of friends in making decisions about issues like which brand to buy or which movie to watch. With the increasing popularity of blogs, online reviews and social networking sites, the current trend is to look up reviews, expert opinions and discussions on the Web, so that one can make an informed decision. Sentiment analysis, also known as opinion mining is the computational study of opinions, sentiments and emotions expressed in natural language for the purpose of decision making. Sentiment analysis applies natural language processing techniques and computational linguistics to extract information about sentiments expressed by authors and readers about a particular subject, thus helping users in making sense of huge volume of unstructured Web data. Applications like review classification, product review mining and trend prediction benefit from sentiment analysis based techniques. This paper presents a study of different approaches in this field, the state of the art techniques and current research in Sentiment Analysis based approaches for understanding user's context.

We show that information about social relationships can be used to improve user-level sentiment analysis. The main motivation behind our approach is that users that are somehow "connected" may be more likely to hold similar opinions; therefore, relationship information can complement what we can extract about a user's viewpoints from their utterances. Employing Twitter as a source for our experimental data, and working within a semi-supervised framework, we propose models that are induced either from the Twitter follower/follower network or from the network in Twitter formed by users referring to each other using "@" mentions. Our transductive learning results reveal that incorporating social-network information can indeed lead to statistically significant sentiment classification improvements over the performance of an approach based on Support Vector Machines having access only to textual features.

Key Terms: - opinion mining; computational linguistics to extract information; semi-supervised framework

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