Opinion Mining on Twitter Data using Unsupervised Learning Technique

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Abstract

Social media is one of the biggest forums to express opinions. Sentiment analysis is the procedure by which information is extracted from the opinions, appraisal and emotions of people in regards to entities, events and their attributes. Sentiment analysis is also known as opinion mining. Opinion mining is to analyze and cluster the user generated data like reviews, blogs, comments, articles etc. These data find its way on social networking sites like twitter, facebook etc. Twitter has provided a very gigantic space for prediction of consumer brands, movie reviews, democratic electoral events, stock market, and popularity of celebrities.

The main objective of opinion mining is to cluster the tweets into positive and negative clusters. An earlier work is based on supervised machine learning (Naïve bayes, maximum entropy classification and support vector machines). The proposed work is able to collect information from social networking sites like Twitter and the same is used for sentiment analysis. The processed meaningful tweets are cluster into two different clusters positive and negative using unsupervised machine learning technique such as spectral clustering. Manual analysis of such
large number of tweets is impossible. So the automated approach of unsupervised learning as spectral clustering is used. The results are also visualized using scatter plot graph and hierarchical graph.

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Index Terms

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Keywords
opinion mining; feature extraction; feature vector; spectral clustering; k-means clustering; hierarchical clustering.