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REVIEW OF SENTIMENT ANALYSIS & CLASSIFICATION TECHNIQUES

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ABSTRACT

This paper reviews various types of sentiment analysis and classification techniques used for social events and social media platforms. The different approaches based on natural language processing, combining classification and clustering, contextual valence shifters etc. are reviewed. The paper outlines their merits for application and gives insight on how these techniques can be further improved.

I. INTRODUCTION

Sentiment analysis is one of the prominent fields in categorization of data and analysing data. It is also referred to as opinion mining. This analysis can be done on any data set on social media platforms. The goal is to analyse opinions, emotions and attitude towards a subject of interest sentiment analysis should be possible at three levels: namely document level, sentence level and entity-aspect level. This paper reviews different sentiment analysis approaches and examples in subsequent section. These approaches and their comparative merits are also discussed in the next section.

II. REVIEW

In reference [1], researchers have done Natural language processing (NLP) based sentiment analysis on Twitter data using ensemble classifiers. It was discovered that including semantically comparable words and context-sense identities to the feature vector increases the exactness of prediction. It was demonstrated by leading examinations that the semantics based highlights vector with collective outperforms the traditional-bag-of words approach with single machine learning classifier. The method differed in approach due to addition of sentence level meaning to feature vectors. The data in the work was collected from twitter social network website. The work also insisted on the requirement of optimizing the feature vector size.

In another work [2], analysis of various sentiment classification techniques was done the paper considered methodologies that generate output with great exactness. The paper underlined on watchful component determination, POS labelling utilizing Stanford tagger, SentiWordNet word reference and proper classification algorithm and their combinations for better accuracy.

In research [3], authors proposed a strategy for deciding the sentiment expressed by a client review. The method not only counted positive and negative terms yet in addition considered contextual valence shifters. In this work negations were utilized to turn around the semantic extremity of a specific term, while intensifiers were utilized to change how much a term was positive or negative, to compute the corpus based estimations of semantic introduction of individual terms the method of associating scores was utilized. It was also shown that this improves the accuracy of classification.

The work of paper [4], concentrated on joining classification and clustering for Tweet sentiment analysis. The study employed C^3E-SL algorithm to combine classifier and cluster ensembles. This approach boosted the classification of Tweets. The experimental results were obtained on data sets to support that this combination can improve tweet classification. It was found by the authors that the best accuracy is for the Stanford data set. The authors also

suggested that the practice of active wisdom to influence the combination results of classifiers and clusters can be an auspicious work to be done.

A sentiment analysis on tweets for Australian federal election 2010 was done in a recent work [5]. The paper proposed a Tweets Sentiment Analysis Model (TSAM). The paper likewise featured that the advance NLP technique must be applied to enhance the present approach. The paper emphasized the use of more accurate entity recognition techniques.

In reference [6], an arrangement of system of machine learning with semantic investigation for grouping the sentence and item surveys in view of twitter information was proposed. The work examined surveys by utilizing twitter dataset which were already labelled. It was reasoned that the dataset can be increased to enhance the feature vector related sentence distinguishing proof process.

In a work [7], Researcher proposed content based positioning strategy in which the user engagement and the remark extremity were altogether considered. The user remark was analyzed in this by utilizing lexicon-based approach. The proposed technique was connected for the real face book dataset. The outcomes found were near positions evaluated by engagement based technique. In any case, researcher needs to figure out how to estimate accuracy of this technique.

III. CONCLUSION

This paper reviews various types of sentiment analysis methods used to analyse twitter and face book data or any social event data. The works based on difference approaches Natural language processing, combining classification and clustering, contextual valence shifters etc. were reviewed. Their comparative advantages and disadvantages were outlined in the reviewed. This work can be utilized by new researchers in this field to know the various approaches used in sentiment analysis of data.

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