**Sentiment Analysis Based on Comments from Online Social Network**

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***Abstract*— Internet is the platform where most of us share our happiness or other feelings. Recent years are devoted in studying and mining the data which is on social platform. This task includes understanding explicit and implicit information conveyed by sentiments. It can be extracted from the comments on social media using dictionary-based sentiment analysis or Review-Seer. Comments of the person are important to analyze the sentiments of the person at the time of writing the comment. The task is to classify the comments into positive, negative and neutral sentiments further into different emotions, for which it uses the concept of Plutchik’s wheel of emotions and further makes a dictionary. The system will take input from user to classify and predict the emotions and strength of that emotion (Negative Emotions). There are basic eight emotions and system will primarily focus on negative emotions. Plutchik’s wheel of emotion gives joy and sadness, anger and fear, trust and disgust, surprise and anticipation. The use of Plutchik’s wheel of emotions will provide the real emotional view of comments. The confidence of the will be given which will indicate the strength of feeling. It uses fuzzy logic approach using Naïve Bayes or decision tree algorithm for prediction and generates output.**

**Keywords—Sentiment Analysis, Plutchik’s Wheel, Machine Learning, Data Mining.**

1. INTRODUCTION

Recently there has been a growing interest in social media and using it to update lifestyle. These comments entered by user contains pure emotions that needs to be extracted using different data mining algorithms. The task of mining sentiments and opinions from natural language is difficult one. It involves an intense understanding of most of the implicit and explicit information which is conveyed by structure of language. The availability of a dynamic corpus contains the user generated data, such as reviews for products or polling data. Big data is the large amount of easily available data on web, Social media, remote sensing data, etc. in form of structured data, semi-structured or unstructured data. We can use this large data for sentiment analysis. Sentiment analysis is the opinion mining used on the web for identifying the text. It is nothing but to get the real voice of people for specific product, services, movies, news, issues from online social networking site like Twitter. This data contains many important aspects which will be helpful in judging the turn of tide in market trend.

2. LITERATURE SURVEY

**A. Fine-grained Sentiment Analysis with 32 Dimensions *[1]:***

It follows one of the most influential classification technique which will classify the given input into 32 categories which are eight primary emotions again bifurgated into three emotions which are differered in strength of each primary emotion. First convolutional layer in word based CNN based on the characteristics of emotional words from the input given by the user. Secondly it is compared with char-rnn and word-rcnn. Both the classification error accumulated from two different networks. Plutchik’s wheel which has 16 distant emotion pairs have opposite color such as Rage in Red and fear in green. Color is fainted according to the intensity of emotion which is bifurgated into 32 emotions.

**B. Rule-Based Emotion Detection on Social Media: Putting tweets on Plutchik’s wheel.**

It introduced RBEM-emo as extention of rule based emission model which deduces emotion using text classification from human written message. The classification of text is done by considering characteristic beyond the polarity in sentiment analysis which is not explored yet. The origin of rule-based emission model can be used for polarity detection for classifying in to 3 label that is positive, negative and neutral. The rule works on set of words which are not good, bad, well, sad classified into different categories which creates and supports rules. Accuracy for given dataset seem to be improved as compared to other algorithms like SVM, Regression, etc.

C.

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