Automated Estimation of Emotion Analysis On Social Media

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ABSTRACT

Social media became popular where in people are willing to share their emotions and opinions or to participate in social networking. Accordingly, the understanding of social media usage became important. The emotion analysis is emerged as one of useful methods to analyze emotional stats expressed in textual data including social media data. However, this method still presents some limitations, particularly with based on accuracy, lexicon and aspect. To overcome and improve this weakness, we propose an automated estimation of emotion analysis in this paper by using the morphological sentence pattern model. Emotion analysis is the process of determining whether a opinion of writing is positive or negative.

Keywords: Emotion Analysis; Natural Language Processing, Social Media, Morphological Sentence Patterns, Aspect Based Approach

I. INTRODUCTION

In recent years, social networking sites, such as Twitter, Facebook, Instagram and YouTube is one of the most popular online media for sharing information, emotions, news and promotions. People express not only their personal feelings but also share their pleasant/unpleasant or dissatisfied experiences with movie. Also, those data provide relevant information for understanding trends, issues, and various aspects of human behaviour. Furthermore, these data can be used for identifying influential opinion leaders. As number of people using social network are growing day by day to communicate with peers so that they can share their personal feeling everyday and views are created on large scale. To evaluate the opinion of the users is not as easy as it seems to all users. For evaluating their attitude may require performing Emotional Analysis. The problem in statement analysis is classifying the polarity of given text at the document, sentences or feature/aspect level. One more is whether the expressed opinion is a document, a sentences or an entity feature/aspect is positive, negative or neutral. The letters, words or sentences used in social media are highly unstructured and non grammatical, out of vocabulary and lexical variation to solve this problem emotional analysis have been introduced which can be used to determine emotion on variety of level. It will score the entire document as positive or negative .It will help to determine the thought of speaker or writer with respect to some subject matter or the overall contextual polarity of document. It is known as opinion mining deriving the opinion or attitude of a speaker. It is defined as to identify the polarity of customer behaviour, the subjective and emotion of particular document or sentences. Emotional Analysis can be used to determine emotion on a variety of level. It will score the entire document as positive or negative. A common use case for this technology is to discover how people feel about a particular topic. Emotional analysis is extremely useful in social media monitoring as it allows us to gain an overview of wider public

opinion behind certain topics. Emotional analysis is easy to find subjective reviews on specific movie.

II. PROBLEM STATEMENT

EXISTING SYSTEM

Every day massive amount of data is generated by social media user which can be used to analyze their opinion about a particular movie by using following techniques:

Natural language processing – NLP tool is well.known for text mining because this tool provides refined and sophisticated results based on English grammar. The system requires refined and tokenized words. The system also requires part of speech tag to extract morphological sentences.

Lexicon based Sentimental Analysis – They collect the comments or reviews from social media. They built a lexicon where each word categorized as either positive or negative keywords were counted for all the messages, each message is classified as positive or negative.

Probability model based Sentimental Analysis – This method requires a train.set with human coders to build a sentiment lexicon that contain the list of words that appeared in the text message. Each message categorized as positive or negative, depending on threshold value calculated using train set.

Aspect based Sentiment Analysis: The aspect.based analysis is a lexicon.based approach because this approach uses the lexicon as a measurement. The aspect.based analysis provides a more in.depth analysis because all results are categorized into each aspect.

PROPOSED SYSTEM

Morphological Sentence Pattern Model will overcome the drawbacks of NLP, Lexicon based Sentiment Analysis, Aspect based Sentiment analysis and Probability based Sentiment analysis.

Morphological Sentence Pattern Model – In this model, the recognizer extracts which parts of

speeches (POS) are surrounding aspects or expressions as shown in Fig. 1. This model also used the "Stanford Core NLP" to recognize patterns and extract lexicon. To analyze multi.social media data including YouTube and Twitter, the system builds morphological sentence patterns for each media separately because people share their opinions and emotions differently depending on the sources. It provides relatively higher accuracy than existing approaches without involving a human coding stage.
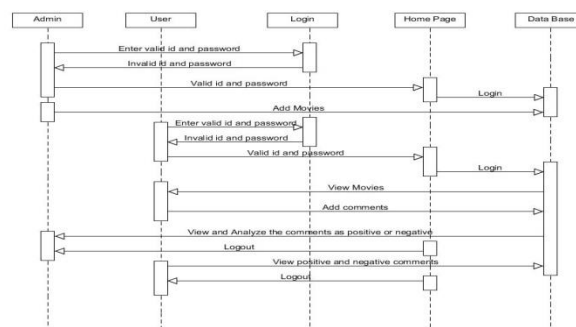

Fig1. sequence diagram of emotion analysis

III. LITERATURE SURVEY

[1] "Sentimental Analysis on Social Media using Morphological Sentence Pattern Model", Youngsub Han, Kawangmi Ko Kim, 2017

It proposes an automated sentiment analysis by using the morphological sentence pattern model. The sentiment analysis is emerged as one of useful methods to analyze emotional stats expressed in textual data including social media data.

[2] "Sentiment Analysis of Movie Review using Machine Learning Technique", Palak Baid, Apoorva Gupta, Neelam Chaplot,2017
Sentimental Analysis is the analysis of emotions and opinions from any form of text. Sentimental Analysis of data is very useful to express the opinion of the mass of group or any individual .This technique is used to find the sentiment of the person with respect to a given source of content.

[3] "A Novel Review of Various Sentiment Analysis Technique", Anchal Kathuria, Dr Saurav Upadhaya,2017

Sentiment Analysis is often obtained as a method of mining opinion, views and emotions from text, verbal speech or images taken from social media like facebook, twitter or youtube through NLP.The media is classified as positive, negative or neutral.

[4] "Aspect Based Sentimental Analysis in Social Media with Classifier Ensembles",Isidoros Perikos,Ionnis Hatzilygeroudis,2017

In social media, people have become more eager to express their opinion on web regarding almost all aspects of everyday life and express their attitude on events and entities. It analyzes the opinion given by user regarding movie whether it is positive or negative.

[5]"The Evolution of Sentiment Analysis. A Review of Research Topics, Venues, and Top Cited Papers", Mika V, Mantyla Daniel Graziotin, Mikka Kutila, 2017
Sentiment analysis is one of the fastest growing research areas in computer science, making it challenging to keep track of all activities in the area. It is a series of methods, techniques and tools about detecting and extracting subjective information such as opinion and attitude.

IV. METHODS AND MATERIALS

A. System architecture
The system architecture include four phase: Data Collector, Aspect and Expression Extractor, Sentiment Pattern Extractor and Sentiment Analyzer.
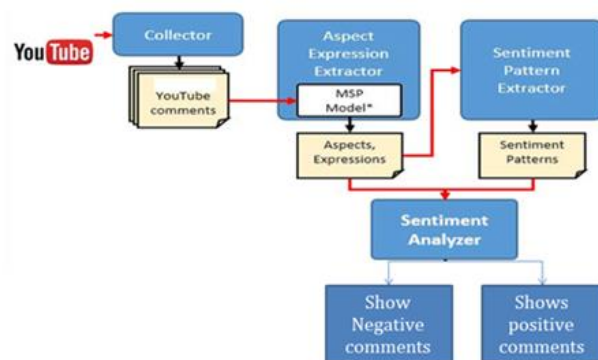

Figure 2. System Architecture And Flow Using Msp

1.**Data Collector** will collect the comments by data collecting tool from the YouTube which is given by the user

2.**Aspects and Expressions Extractor** discovers aspects and expressions of the reviews using the Morphological Sentence Pattern Model by Naive Bayes Classifier.

3.**Sentiment Pattern Extractor** builds all candidate morphological sentence patterns for sentiment analysis.

4.**Sentiment Analyzer** matches the patterns and sentimental lexicon with the collected data.

A. System modules
1. Admin.

Admin will login to the homepage and its credentials details will be stored in the database. Admin will add the movies to the database and admin will be able to view the comments posted by the user and admin will analyze the comments posted by user whether it is positive or negative. Admin can view overall opinion graph chart of a particular movie.

2. User.

User will login to the homepage and its credentials details will be stored in the database. User will be able to view the movies added by the admin and user can post a comment and also user can view the comments posted by the other user for that particular movie.

C. Advantages

- Emotional analysis helps to complete the market research by getting to know what the viewers think.
- The positive and negative comments among the audience can be evaluated.
- Great results can be achieved to improve our campaign while the trailer is running.
- Prediction can give us insights that help to develop new ideas that are expected by the audience.
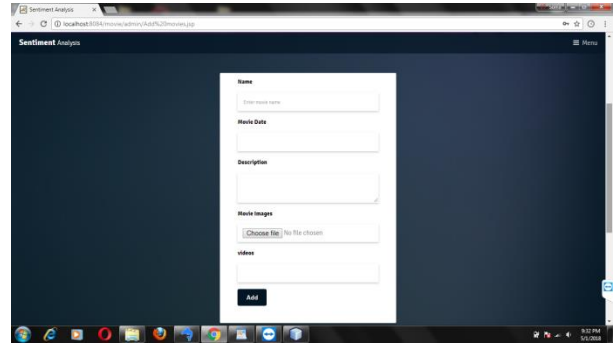
V. RESULTS AND DISCUSSIONS
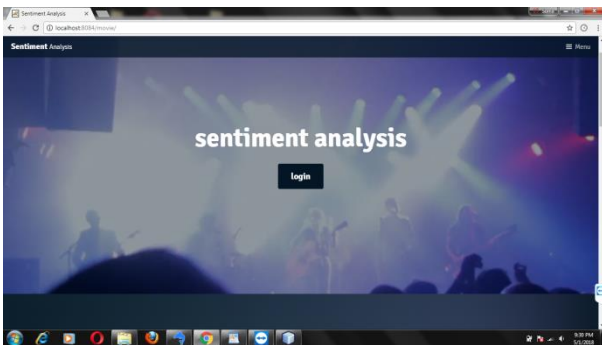
Snapshot1.Homepage

Homepage where in Admin and User can register and login to view video and upload comments.
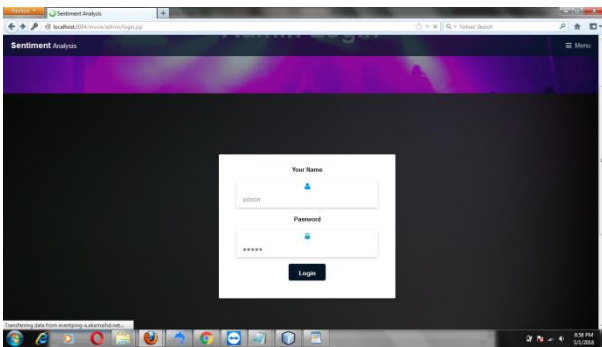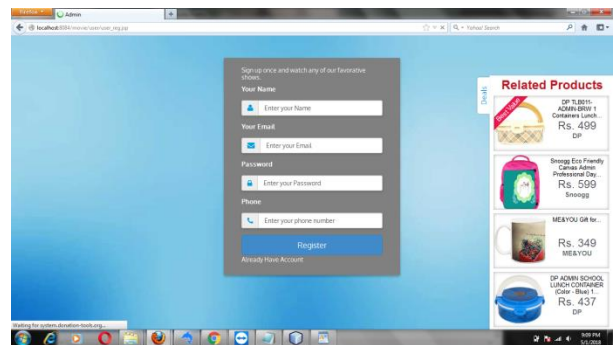

Snapshot2.Admin login page

When admin logs in it will check for the valid credential, if it is valid then admin will be able to login and the login details will be stored in the database.
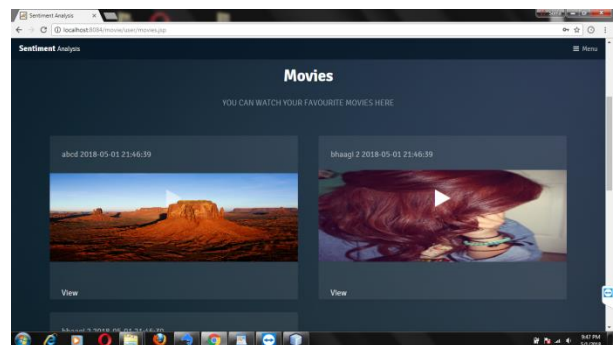

Snapshot3.Add Movies page

As soon as admin logins he/she can add the movies, movie release date and description about a movie to the database.
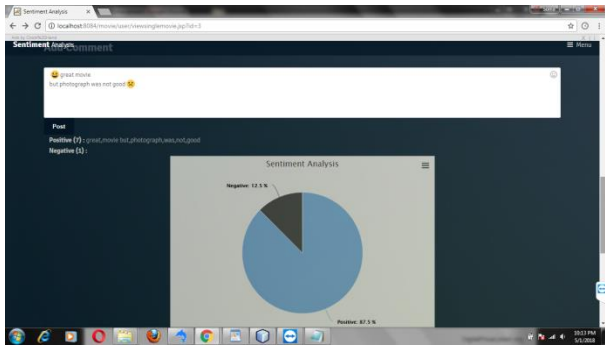

SnapShot4.User login page

User will register with name, email.id, password and contact number and details will be stored in the database.

Snapshot5.View Movie page

After user login to the page user can view the movies added by the admin.

Snapshot 6. Comment and View chart page

After watching a movie user can post a comment and can view the opinion chart of a particular movie.

VI. CONCLUSION

Social media monitoring has been growing very rapidly so there is need for various organizations to analyze customer behaviour or attitude of particular movie review. At the end of the day, Emotional Analysis is about making easier to view context around a social media. The main advantage of Morphological Sentence Pattern Model method was that no human.coded train.sets are required to achieve a higher level of accuracy. With the help of emojis we are able to detect a comment posted by the user is positive or negative and he/she will be able to view the opinion chart of the comments they posted. Admin will be able to view the overall opinion chart of multiple user for a particular movie. The future work might consider applying a Convolution Neural Network (CNN) algorithm in the Emotion Analysis which is widely used in the artificial intelligence field. In future enhancements, more categories can be introduced to classify tweets – extremely positive, mildly positive, extremely negative, mildly negative, neutral, and irrelevant.

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