

A Survey on sentimental analysis in different fields

¹V.Selina Annie Retna, ² Prof. P. Brundha

¹PG Student, Francis Xavier Engineering College, Department of CSE

²Head of the Department, Francis Xavier Engineering College, Department of CSE

Tirunelveli, India.

ABSTRACT

Each and every one nowadays was most commonly keen towards their feedback on their respective fields as they want to know how was their respective sector of their journey towards success was going and also was eager to improve them according to the negative comments. As now everything was through online platform to know them and to equip, sentimental analysis was most helpful for giving out the positive, negative and the neutral comments. Taking out the business field their reviews plays a major role in their production and profit analysis. The various fields in which the sentimental analysis plays a major role in their reorganization are social media monitoring, customer support, customer feedback, brand monitoring, product analysis, market research and voice of employee they are most commonly done for their respective field in order for the development and enhancement of their product or their reputation. Sentimental analysis is most commonly a review by the people who experienced the product or the brand and their emotional feedback which will be given which improve or sustain their standard.

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1. INTRODUCTION

In every field all were based on the feedback and the review based as nowadays everything was organized and executed successfully online. In such situation if we take to analyze and understand the reviews and feedback, sentimental analysis was very much useful for the analyzing and improvement in the respective field. Sentimental analysis was basically done using the method of opinion mining processing and for that commonly the used process was natural language processing. In natural language processing it will grouped and will analyze with that it will be capable to extract the effective information and subject it under the respective survey. For the opinion mining in the natural language processing the maximum

probability will be the text mining principles and according to which the analyze was done and thus output was extracted.

2. IMPLEMENTATION

The implementation of sentimental analysis taken part in various application field in order to analyze and to give the respective feedback related to the feedback and the review.

2.1. Online Review Classification:

In the business field, the review classification using the sentimental analysis will be helpful for each and every product feedback which will be very much useful for the business industry to rectify and also

keep their product stable if they are moving in the positive way.

2.2. Stock Price Prediction:

In the finance industry for stock aids which were made by prediction of different models and also there by collecting the information from the social media. Thereby collecting and made into the processing in order for the model prediction from the textual information which was already given over the internet.

2.3. Social Media Analysis:

Social media analysis is the field in which the public opinion will be taken by which grouping on the respective fields will be taken place.

By this mode of implementation the public polls or reviews or feedback from the social platform regarding any particular fields will be collected and relevantly the sentimental analysis was done for the feedback.

2.4. Student Feed back

For analyzing how the education system was reaching out and also for analyzing the teaching capacity of the relevant staffs how their teaching skills and their behavior and all things was can also be analyzed. Student feedback was basically invented in order for the opinion from their point of view.

2.5. Domain Specific:

Domain specific sentimental analysis using the natural language processing is used in order to find the categorical order by the mining concept and relevantly the data can be used for the opinion polling method to understand the required details.

2.6. Complex Question answering:

The best example for this field is the chatbot which was completely working on the natural language processing in which the sentimental analysis categorical execution also taken place for the smooth processing. By which that the respective mood and also the feedback can be analyzed by the system and then the required values will be get as the output.

2.7. Email Analysis:

Mostly everyone will come across this mode as by detecting certain words or the sentence from the mail they will recognize and move the relevant file

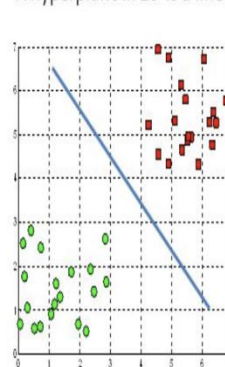
to the spam folder considering that it was the spam message which was in the mail box and send it to the relevant folder. This process was done by the natural language processing along with the sentimental analysis.

3. Overview of Algorithm in Sentimental Analysis:

Several Algorithms was used along with the machine learning technology in order to understand the system details with the relevant details which was given under the documental format for the execution of the values and to get the best executable result along with the algorithms to execute.

3.1 Support vector machine Algorithm:

A hyperplane in R^2 is a line



A hyperplane in R^3 is a plane

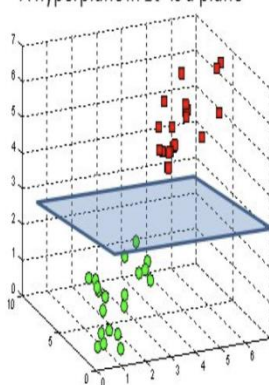


Fig 1. Hyperlane in Support Vector Machine

Support vector machine algorithm mainly used in order to determine the dataset and to identify the structure and divide the values into two distinct set by using the hyper plane to identify the distance and group them with the relevant and the distinct values.

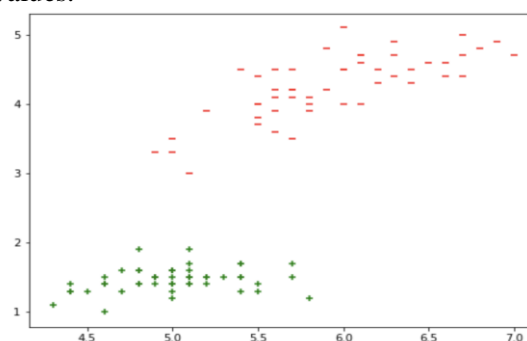


Fig. 2. Result of SVM

3.1.1 Limitation of Support Vector Machine

However Support vector machine works very well in the distinguish part it has the limitation when the data sets were large it will be difficult to perform the structure correctly. When the data values exceeds the given amount of data values it will not works effectively.

3.2 Artificial Neural Networks:

Artificial Neural Network

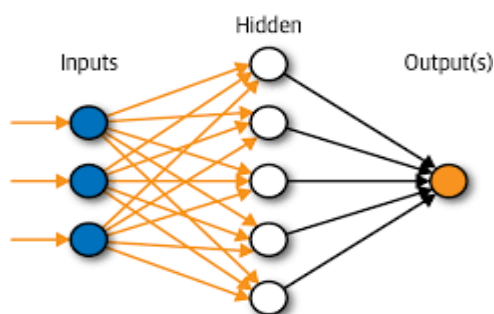


Fig3. Artificial Neural Networks

Artificial neural network is the methodology in which it was used as like the human brain by training the sets and giving out the relevant details of the dataset.

By understanding the exact details of the given dataset the process will be done by training the given set and the accurate result with the great accuracy will be taken out for the result.

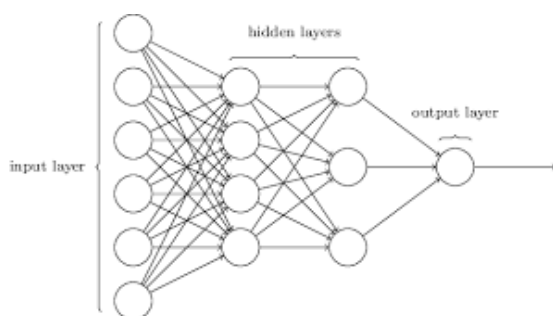


Fig4. Output of the neural networks

3.2.1. Limitation of Artificial Neural Network:

In artificial neural network it gives out the expected results. It takes a lot of time for the training process and it becomes critical in the place where the time exceeds and will have the unclear result. It is most commonly hardware dependent.

3.3. Naïve Bayes Algorithm:

Naive Bayes algorithm is used to predict the exact probability of the different classes; basically it is used for the methods for the textual conversion for the prediction and analyzing of the exact values. It is mainly used for the probabilistic conversion of the data values, by placing it in the table format and thus identifies by applying the algorithm to determin the probability.

Weather	Play
Sunny	No
Overcast	Yes
Rainy	Yes
Sunny	Yes
Sunny	Yes
Overcast	Yes
Rainy	No
Rainy	No
Sunny	Yes
Rainy	Yes
Sunny	No
Overcast	Yes
Overcast	Yes
Rainy	No

Frequency Table		
Weather	No	Yes
Overcast		4
Rainy	3	2
Sunny	2	3
Grand Total	5	9

Likelihood table		
Weather	No	Yes
Overcast		4
Rainy	3	2
Sunny	2	3
All	5	9
	$\frac{5}{14}$	$\frac{9}{14}$
	0.36	0.64

Fig5. Tabulation in Navie Bayes

3.3.1. Limitation of Naïve Bayes Algorithm:

The main limitation of the naïve Bayes algorithm was the assumption of the prediction values. And also while classifying the categories if certain values have some categories it will not read the specific related values.

3.4. Bayesian Network:

Bayesian network is the graphical model representation in which it took up the values from the data set and then consider them into the respective values according to the required probabilistic model.



Fig

6. Bayesian Networks

3.4.1. Limitation of Bayesian networks:

The main limitation of the Bayesian network is that there is no accepted universal method for

computing the data and also there is no specific method of computational values.

4. Conclusion

For using the sentimental analysis there is several areas to find out the exact result for their feedback and reviews upon different sectors. For analyzing the sentimental analysis there are different algorithms were used and thus by using the relevant algorithm the required result can be taken out with ease.

5. Future Works:

In all respective algorithm to find the sentimental analysis the certain drawbacks is present and rectifying and using the relevant algorithm relevantly will give the specific accurate result. Security purpose can also be included in the analysis process for the more accurate results.

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