iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 6 **Issue:** X **Month of publication:** October 2018

DOI:

www.ijraset.com

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887
Volume 6 Issue X, Oct 2018- Available at www.ijraset.com

Sentiment Analysis for Business Intelligence Buildup-A Review Paper

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Abstract: Ubiquitous presence of internet, advent of web 2.0 has made social media tools like blogs, Facebook, Twitter very popular and effective. People interact with each other, share their ideas, opinions, interests and personal information. These user comments are used for finding the sentiments and also add financial, commercial and social values. However, due to the enormous amount of user generated data, it is an expensive process to analyze the data manually. Increase in activity of opinion mining and sentiment analysis, challenges are getting added every day. There is a need for automated analysis techniques to extract sentiments and opinions conveyed in the user comments. Sentiment analysis, also known as opinion mining is the computational study of sentiments and opinions conveyed in natural language for the purpose of decision making.
Keywords: Machine learning; opining mining; sentiment analysis; sentiment classification.

I. INTRODUCTION

Due to the huge growth of social media on the web, opinions extracted in these media are used by individuals and organizations for decision making. Each site contains a large amount of opinioned text which makes it challenging for the user to read and extract information [1]. This problem can be overcome by using sentiment analysis techniques. The main objective of sentiment analysis is to mine sentiments and opinions expressed in the user generated reviews and classifying it into different polarities. The output is the data annotated with sentiment labels. Machine learning techniques are widely used for sentiment classification

II. LITERATURE SURVEY

1) According to the recent Research paper in 2016 titled 'Sentiment Analysis and Opinion Mining from Social Media : A Review'. The Researchers have proposed a presence of internet, advent of web 2.0 has made social media tools like blogs, Facebook, Twitter very popular and effective. People interact with each other, share their ideas, opinions, interests and personal information. These user comments are used for sending the sentiments and also add financial, commercial and social values. However, due to the enormous amount of user generated data, it is an expensive process to analyze the data manually. Increase in activity of opinion mining and sentiment analysis, challenges are getting added every day. There is a need for automated analysis techniques to extract sentiments and opinions conveyed in the user-comments. Sentiment analysis, also known as opinion mining is the computational study of sentiments and opinions conveyed in natural language for the purpose of decision making. Preprocessing data play a vital role in getting accurate sentiment analysis results. Extracting opinion target words provide one-grained analysis on the customer reviews. The labeled data required for training a classifier is expensive and hence to over come, Domain Adaptation technique is used. In this technique, Single classifier is designed to classify homogeneous and heterogeneous input from different domain. Sentiment Dictionary used to send the opinion about a word need to be consistent and a number of techniques are used to check the consistency of the dictionaries. This paper focuses on the survey of the existing methods of Sentiment analysis and Opinion mining techniques from social media.

2) According to the Research paper in 2016 titled 'Sentiment Analysis of Twitter Data : Case Study on Digital India'. The Researchers have proposed to Tracking different types of opinions summarizing them can provide valuable insight to different types of opinions to users who use Social networking sites to get reviews about any product, service or any topic. Analysis of opinions its classification on the basis of polarity (positive, negative, neutral) is a challenging task. Lot of work has been done on sentiment analysis of twitter data and lot needs to be done. In our work we are trying to perform sentiment analysis of the twitter data set that expresses opinion about Modiji's Digital India Campaign. In my work, I have collected these sentiments and classified polarity of sentiments in these opinions w.r.t. Positive, Negative or Neutral. Twitter data is collected for analysis using Twitter API. Out of the two widely used approaches used for sentiment analysis, Machine Learning Dictionary Based approach, we are using Dictionary Based approach to analyze data posted by different users. Then polarity classification of this data is done In this paper we discuss sentiment analysis of twitter data, existing tools available for sentiment analysis, related

work, framework used, case study to demonstrate the work followed by the results section. Results clearly demonstrate that the 50 percent of the collected opinions are positive, 20 percent are Negative and rests 30 percent are neutral.

3) According to the Research paper in 2018 titled 'Sentiment Analysis of Twitter Corpus Related to Artificial Intelligence Assistants'. The Researchers have proposed for Providing an enhancing experience is one of the most significant current issues in the user's research. A process that improves user's experience should be required to evaluate the usability and emotion. Above all, sentiment analysis based on user's opinions can be used to understand user's tendency. This paper aims to make a criterion what artificial intelligence assistant is statistically better. User's opinions about three artificial intelligence assistants from Twitter were collected and classified into positive, negative, neutral opinions by a lexicon named Valence Aware Dictionary and sEntiment Reasoner (VADER). Also, we analyzed tweets through independent samples T-test, Kruskal-Wallis test, and Mann Whitney test to show the statistical significance among groups. The results suggested the highest rank of three artificial intelligence assistants by using statistical

4) According to the Research paper in 2018 titled 'A Framework for Sentiment Analysis with Opinion Mining of Hotel Reviews' The Researchers have proposed to incorporated into a hotel technology system that can help improve customer relationship management. What good is a system that predicts the polarity of sentiments if it works with the wrongly labelled data? From the sentiment polarity exercise that we did, we found out that some comments may be wrongly viewed as neutral while they will be either positive or negative. The following example was viewed as a neutral comment. "That hotel is surely a HELLTEL!" This comment is truly negative and sarcastic, but because the word HELLTEL does not exist in the English vocabulary it was classified under the neutral class. However, most comments were labelled with a much better accuracy. We believe that a lot of research can be done in this area especially in fine tuning the feature extraction algorithm of the framework so that classification error is minimized.

5) According to the Research paper in 2017 titled 'Hotel Reviews Sentiment Analysis Based on Word Vector Clustering' The Researchers have proposed a method to reduce dimension of text feature vector. We used deep learning tool Word2Vec to train word vector and then applied ISODATA clustering algorithm to cluster words, so as to improve words clustering result. [6] This method could get better representation of text feature vector, which was important to text sentiment analysis. The main improvement of our method lies in the clustering algorithm we used, ISODATA clustering algorithm can solve the problem that clustering result is sensitive to the initial number of clusters.

III. CONCLUSION

The Proposed Sentiment analysis based system is of tremendous use to the people and industries which are based on sentiment analysis. For example, Sales Marketing, Product Marketing etc. in this system, the tweets are not stored which is cost effective as no storage space is needed. Also all the analysis is done on tweets real-time. So the user is assured that, getting new and relevant results.

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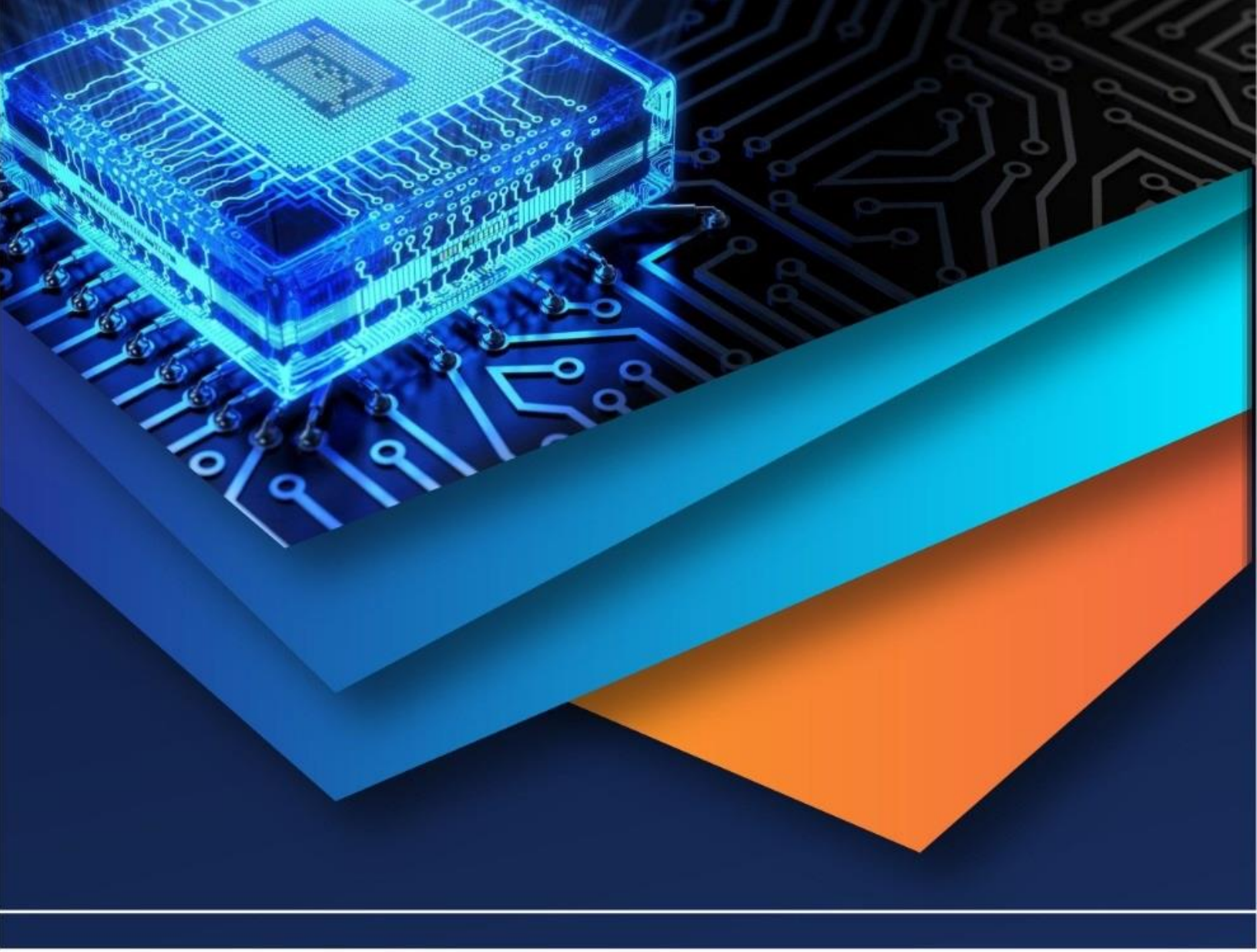

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