Progress Report

On

**SENTIMENTAL ANALYSIS**



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INT 404 – ARTIFICIAL INTELLIGENCE

Submitted to:

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SENTIMENTAL ANALYSIS

Introduction:

We all know that the success of a company or any kind of organisation is directly depends on its customers. If the customers are not satisfied with the product or with your company then you certainly need to improvise in those areas where your customers are not satisfied.

Sentimental Analysis can be used in various kinds of applications -like Tweet Analysis, Movie review, Product review, etcetera.

Sentimental Analysis is the process of computationally identifying and categorizing opinions from piece of text and determine whether the writer’s attitude towards the particular topic or the product is positive, negative or neutral.

Example:

1. Baahubali is an awesome movie (Positive | +1)
2. Baahubali is not a good movie (This looks negative | -1)
3. Baahubali is a movie (This is Neutral | 0)

Basically, we’ll get the Polarity and subjectivity of the statement which we have processed from the TextBlob library, then by using if else statements we can find out whether it is positive, neutral or negative.

This project is applicable in various tasks like for article reading , tweet analysing , IMDB etcetera.

AIM:

The Aim of this Project to estimate the opinions/reviews on a particular thing or on a particular product by users, so that the company can estimate their product and will make changes if needed.

It would take a lot of time for humans to read all the opinions and to bring an outcome from their opinions. But if we use this AI based Sentimental Analysis it makes the task easier and efficient.

Objective:

The objective of this project is to show how sentimental analysis can help improve the user experience over different fields like in business. The learning algorithm will learn what our emotions are from statistical data and then determine the true feedback of user/customer on the basis of which the companies can build their efficient way of making things that would increase customer satisfaction and thereby increase their sales.

Motivation:

Until a few years ago, being able to monitor and analyse sentiment in all the conversations taking place on blogs, forums and social media about your brand, products or services was every organization’s dream.

This became true by as using sentiment analysis, companies can detect the opinions expressed by users and measure customer feedback found in millions of web pages, postings on review sites and customer forums.

Scope:

As of now, when compared to previous years data is generating at a rapid rate , so it became very difficult for a human to analyse all the reviews given by the customer from such huge data , this kind of projects makes the things easier for the companies or movie directors , for whoever want to estimate a product review.

It is playing a key role in the field of business as understanding people’s emotions is essential for businesses since customers are able to express their thoughts and feelings more openly than ever before. By automatically analysing customer feedback, from survey responses to social media conversations, brands are able to listen attentively to their customers, and tailor products and services to meet their needs.

Example: Product Review in amazon, Book My show Movie reviews.

We can extract the outcome of the review just like whether it is positive, negative or neutral in a simple manner within seconds.

Contribution:

This project can be done using tweepy API for sentimental analysis of twitter (Nothing but Social Media sentimental Analysis) and for articles & blogs .

As of now , contribution for project up to what ever we covered

Santosh : importing libraries , NLTK usage and how it works in the background of this project, (NLTK , tweepy) and related libraries .

Srikanth : Worked on matplot and seaborn (For visualizing the polarity) and worked on sentimental analysis for articles , nltk.

As of now we are done with some part of the project and we are reading blogs and getting idea about the working and use of various libraries.

Libraries:

The back-bone of this project is Natural Language Processing – (NLP)

1. NLTK: - Natural Language Toolkit (NLP).

Natural Language Processing, usually shortened as NLP, is a branch of artificial intelligence that deals with the interaction between computers and humans using the natural language. The ultimate objective of NLP is to read, decipher, understand, and make sense of the human languages in a manner that is valuable.

Simply, NLP is a part of Computer Science & Artificial Intelligence which deals with the human languages. NLP refers to the AI method of communicating with Intelligent systems using natural language.

1. tweepy

Tweepy is an API for providing tweets.

Basically It’ll give us four different kind of keys , to access tweets from our account , so that we can

1. textblob

TextBlob is a Python library for processing textual data. It provides a simple API for diving into common natural language processing (NLP) tasks such as part-of-speech tagging, noun phrase extraction, sentiment analysis, classification, translation, and more.

1. Pandas

Pandas is a library in python that is used to perform Data Analysis and Data Manipulation.

For example, If we download Datasets from Kaggle , or from any kind of source, so in order to extract the required data from that file we use pandas DataFrame object.

1. numpy

For Processing data in to arrays , and for performing operations on data stored in arrays.

1. re

re means regular expressions.

The ‘re’ package provides multiple methods to perform queries on an input string.

Example:

* re.match()
* re.search()
* re.findall()
* re.sub()
* re.compile()

1. Newspaper3k

This library is used when we are doing sentimental analysis for online articles , it will be able to represent the data precisely ( Summary of the article).

References:

* Edureka YouTube channel.
* <https://www.analyticsvidhya.com/blog/2018/07/hands-on-sentiment-analysis-dataset-python/>
* <https://datahack.analyticsvidhya.com/contest/practice-problem-twitter-sentiment-analysis/>
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