TWITTER SENTIMENT ANALYSIS

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Abstract

Nowadays, social media is getting more attention. Public and private opinions on a wide range of topics are constantly expressed and distributed via a variety of social media platforms. Twitter is one of the most prominent social networking platforms. Twitter provides businesses with a quick and effective approach to assess customers' viewpoints on issues that are crucial to market success. Creating a sentiment analysis programme is a method for computing consumer perceptions. This study describes the creation of a sentiment analysis that extracts a large number of tweets. Tweepy, numpy, pandas, textblob, and nltk are some of the Python modules utilised in this project. Results classify customers' perspective via tweets into positive and negative, which is represented in a pie chart and tabular form.

1. Introduction

As the internet grows in size, so does its reach to the general public. Twitter, Facebook, and Tumblr are among the most popular social media and microblogging sites for rapidly disseminating concise news and hot topics around the world. When several people contribute their opinions and judgements on a topic or piece of news, it becomes a valuable source of internet perspective on that topic. These themes are usually used to promote political campaigns, public people during elections, commercial endorsements, and entertainment such as award shows and movies. Large corporations and businesses use user feedback on these platforms to improve their goods and services which further help in enhancing marketing strategies. One example is releasing images of the future iPhone in order to generate a buzz and tap into people's emotions in order to advertise the product before it is released. As a result, there is a big opportunity for business-driven applications to uncover and analyse intriguing patterns from the endless social media data. The prediction of emotions in a word, sentence, or corpus of texts is known as sentiment analysis. It's designed to be a tool for deciphering the opinions, attitudes, and feelings stated in an internet comment. The intention is to gain or access an overview of the wider public opinion behind certain topics. Precisely, it is a paradigm of categorizing conversations into positive, negative, or neutral labels. Many people use social media sites for networking with other people and to stay upto-date with news and current events. These sites (Twitter, Facebook, Instagram, google+) offer a platform for people to voice their opinions.

2. Overview

Sentiment Analysis is a machine-based way of understanding text that categorises the text's feelings as positive, terrible, or neutral. Performing arts Sentiment Analysis on Twitter data will assist businesses in gaining qualitative insights into how people are talking about their entire. Twitter has grown to become one of the most important social media platforms for news, data, and interaction with brands and influential personalities around the world, with over thirty million active users and a daily average of 500 million tweets.

3. Need

Sentiment analysis combined with social media monitoring allows you to determine how invested your target audience is in any emerging trends. And how they feel about the trends in question.

4. Literature Survey

Ortigosa and Alvaro et. al [2] proposed a novel method for sentiment analysis in social media behemoth Facebook that supports: (i) extracting useful information about Facebook users' sentiment polarity (whether positive, neutral, or negative) from messages written by users; and (ii) modelling users' normal sentiment polarity and analysing significant emotional changes in users, all based on messages written by users. [3] As proposed by Pak and Alexander et al. Author creates a

sentiment classifier using the corpus, which can determine positive, neutral, and negative feelings for the entire document. The proposed strategies are more efficient and perform better than previously proposed techniques, according to experimental results.

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Agarwal and Apoorv [5] described Twitter, a popular microblogging site. IJEDR1702032 | Volume 5, Issue 2 | ISSN: 2321-9939 | ISSN: 2321-9939 Engineering Development and Research: An International Journal (www.ijedr.org) 198 and create models for categorising "tweets" into positive, negative, or neutral mood. The author creates new models for two classification tasks: the first is a binary work of classifying user sentiment into positive and negative categories, and the second is a three-way task of classifying user sentiment into positive, negative, and neutral categories. The author tries out two different models: (1) A feature-based model called a unigram (2) a tree-based 30 kernel model.

5. Design and Implementation

A. Proposed System

An idea to overcome the drawbacks of traditional survey methods to obtain people's opinions is to develop a Machine Learning Model by training the model to categorise tweets based on sentiment of the tweet and make the model as accurate as possible. First, the user will provide input in the form of a keyword for extracting tweets, and then the extracted tweets will be classified by the Machine Learning Model as either positive or negative tweets.

Aim of Proposed System

The programme should be functionally competent, having features that serve the goal for which it was designed. The app's features should correspond to the needs of the users for which it was created. The user interface of the application should be simple enough for a user to comprehend how it works. The application should function properly without crashing, and users from all around the world should be able to use it without difficulty.

B. General Working of System

The application mainly consists of the following tasks

Building and Training The Machine Learning Model

The end user has no involvement in this stage, however it is performed in the background without the end user's knowledge.

Giving The Keyword as Input

In this phase, the user must enter a keyword that must appear in all of the tweets that we will extract from Twitter.

Pre-process The Tweets Extracted

In this step also the user has nothing to do but the extracted tweets has to be preprocessed before sending these tweets to the ML model.

Getting the prediction of sentiment of extracted tweets using our Machine Learning Model

In this step our ML model predicts the sentiment of the tweets but the results will be stored in an array.

Displaying the results in graphical representation

For a better comprehension of the results, the data will be presented to the end user in a graphical format such as a bar graph or a pie chart in this phase.

C. Microblogging with E-Commerce

Twitter is similar to a traditional online journal, except that single posts are short. Twitter has limited the number of words that can be used for quick transmissions of information or speculation trading. In any event, fewer businesses and huge organisations are beginning to recognise the potential of microblogging as an internet business marketing tool. However, by employing an outside microblogging staging such as Twitter selling, a microblogging stage has been constructed through many years of effort for growing remote exchange site. In this age of sharing, clever, network-based options are essential. A web-based business has introduced a brand new bright recognise that it is frequently indicated that the microblogging stage has enabled businesses to do brand image, item critical deals channel, improve item deals, visit customers for a fair connection, and various business exercises involved.

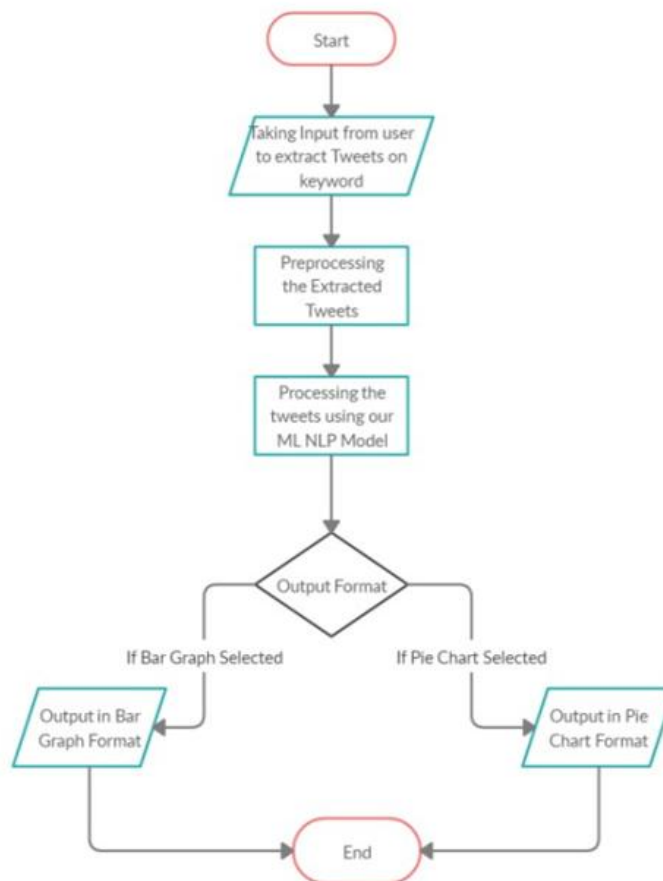
Figure 1: Steps of sentiment analysis

Figure 2: Activity diagram for the user side program

6. Advantages

The sentiment analysis of twitter data has many organizational benefits such as:

- Discover brand perception
- Grow your influence
- Improve customer service

7. Limitations

- Many phrases have a negative or positive impact on your reputation although they carry no sentiment information.
- Sentiment analysis systems trained on review data are often much less accurate when applied to data from other domains such as news or social media.
- Analyses are suitable for the English language, in which there is a limitation for other languages.

8. Acknowledgement

9. Conclusion

Sentiment analysis, often known as opinion mining, is a trendy issue in machine learning these days. Because of the richness of the English language, we still have a lot to learn about how to effectively describe the moods of a corpus of writings. In this project, we're concentrating on sentiment analysis. With a slightly accepted background, there is labour capability within the range of sentiment analysis. For example, we've seen that clients typically use our site for specific types of watchwords that may be divided into a few distinct categories, such as governmental issues/lawmakers, major names, items/brands, sportsperson, media, and music. Following that, we'll try to conduct a separate feeling investigation on tweets that exclusively belong to one of those categories (for example, the training data wouldn't be general anyway explicit to one of those classifications) and compare the results to what we'd get if we used general sentiment analysis instead.

Twitter's APWE is vastly helpful in data processing applications, and may offer large insights into the general public opinion if the Twitter APWE and large information analytics are a few things you've got more interest in. Twitter APWE can be used in most of the difficult sentiment gathering, involving people, trends, and social graphs that is very different for the human mind to get.

10. References

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