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A Research Paper on Tweet Sentiment Analysis using Python & Django

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Abstract: ***In this project our goal is to build a tweet sentimental analysis in which user can search and analyse thousands of tweets in one go. For backend we will use python and Django web framework and for front end we are going to use HTML, Css and bootstrap. It will help to analyse any hashtag and companies about their product feedback reviews. This project contains only the one user side. It is like a tweets search analyser. The design of this project is pretty simple so that the user won't find any difficulties while working on it.***
Keywords: Python, Django, Textblob

I. INTRODUCTION

In this Python and Django project idea, we are going to build an exciting project through which you can check, Search and analyse any hashtag and kind of online surveys. For front end we are going to use HTML, Css and Bootstrap. We will draw the images and text to be displayed on the screen.

II. METHODOLOGY & PROCEDURE

Python is a popular programming language. It was created by Guido van Rossum, and released in 1991.
It is used for:

1) Web development (server-side),
2) Software development,
3) Mathematics,
4) System scripting.

A. Python

Python is a general purpose, dynamic, high-level, and interpreted programming language. It supports Object Oriented programming approach to develop applications. It is simple and easy to learn and provides lots of high-level data structures. Python is easy to learn yet powerful and versatile scripting language, which makes it attractive for Application Development. Python's syntax and dynamic typing with its interpreted nature make it an ideal language for scripting and rapid application development. Python supports multiple programming pattern, including object-oriented, imperative, and functional or procedural programming styles. Python is not intended to work in a particular area, such as web programming.
That is why it is known as multipurpose programming language because it can be used with web, enterprise, 3D CAD, etc.

B. Django

Django is a Web Application Framework which is used to develop web applications. Django is a Python-based web framework which allows you to quickly create web application without all of the installation or dependency problems that you normally will find with other frameworks. When you're building a website, you always need a similar set of components: a way to handle user authentication (signing up, signing in, signing out), a management panel for your website, forms, a way to upload files, etc. Django gives you ready-made components to use. Django can build almost any type of website. It can also work with any client-side framework and can deliver content in any format such as HTML, JSON, XML etc. Some sites which can be built using Django are wikis, social networks, new sites etc.

C. Tweepy Django

There are various libraries in python Tweepy is one of them.
Tweepy is an open source Python package that gives you a very convenient way to access the Twitter API with Python. Tweepy includes a set of classes and methods that represent Twitter's models and API endpoints, and it transparently handles various implementation details, such as: Data encoding and decoding. Tweepy provides the convenient Cursor interface to iterate through different types of objects. Twitter allows a maximum of 3200 tweets for extraction.

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D. TextBlob

TextBlob module is a Python library and offers a simple API to access its methods and perform basic NLP tasks. It is built on the top of NLTK module. TextBlob is frequqntly used for

1) *Corpus* – Body of text, singular. Corpora is the plural of this.
2) *Lexicon* – Words and their meanings.
3) *Token* – Each "entity" that is a part of whatever was split up based on rules. For examples, each word is a token when a sentence is "tokenized" into words. Each sentence can also be a token, if you tokenized the sentences out of a paragraph.

E. Tweeter API

The Twitter API enables programmatic access to Twitter in unique and advanced ways. Use it to analyse, learn from, and interact with Tweets, Direct Messages, users ,and other key Twitter resources. Twitter for Websites. Twitter for Websites brings live conversation from Twitter to your website or app. Tweepy: tweepy is the python client for the official Twitter API. In order to fetch tweets through Twitter API, one needs to register an App through their Twitter account.

F. Project

The Tweet sentiment Analysis is a python-Django project written in python programing language, this Tweet sentimental idea, we are going to build and exciting project through which you can check and analysis thousand or product feedback reviews as Positive , Negative and Neutral. For making this project we are going to use Tweeter API and TextBlob Python library. And in front end we are using HTML , CSS and Bootstrap.

G. Front-end

In the project for front-end, we have used the HTML, Css and Bootstrap.

HTML stands for Hypertext Mark-up Language. It is most widely used on web to develop web pages. HTML was created by Berners-Lee in late 1991 but "HTML 2.0" was the first standard HTML specification which was published in 1995. Its latest version is HTML 4 and it supports more scripting languages, multimedia options, better printing facilities, and style sheets.

Cascading Style Sheets (CSS) is a stylesheet language used to describe the presentation of a document written in HTML or XML. CSS describes how elements should be rendered on screen, on paper, in speech, or on other media. It is used to style and layout web pages to change the font, colour, size, and spacing of your content, split it into multiple columns, or add animations. It saves time, helps to load pages faster, easy to maintain and up to global web standards. Bootstrap is a free and open-source framework for creating websites and web applications. It's the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web. Bootstrap is the most popular front-end framework. Bootstrap provides a clean and uniform solution for building an interface for developers. It contains beautiful and functional built-in components which are easy to customize. It also provides web based customization.

H. Back-end

In the project for Back-end, we have used the Python and Django web framework. and use Python function and Python class, Python Class name is TweeterClient() and function name is GetTweetSentiment() and show() and Clean_Tweet().

GetTweet() in this function we get tweet from Tweeter. Clean_Tweet() in this function we clean Tweets. GetTweetSentiment() in this function we get sentiments for the tweets by polarity by +1, -1 and 0. Here +1 is for Positive Tweets , -1 is for Negative Tweets and 0 is for Neutral. Show() function renders the HTML webpage which consists of a Text Area and a Button called prediction. In Text area have a name for which prediction is required. Prediction called Prediction() function which renders output page.

III. MATERIALS AND EQUIPMENT

A laptop computer with Microsoft Windows 7,8,10 (1.2 GHz) was used for the Mouse Con- trol Screening and the main study. and I-3 Processor, 4GB RAM, some spaces ROM/Hard-disk. Software specification are Anaconda/python IDLE.

IV. RESULT & CONCLUSION

Will open the app first . This will open a pop up window as soon as we pen it all functionary will start working . Then we have to add a Hashtag or topic for which we want to search tweets. Then after searching it will show us couple of Negative , Positive Tweets.

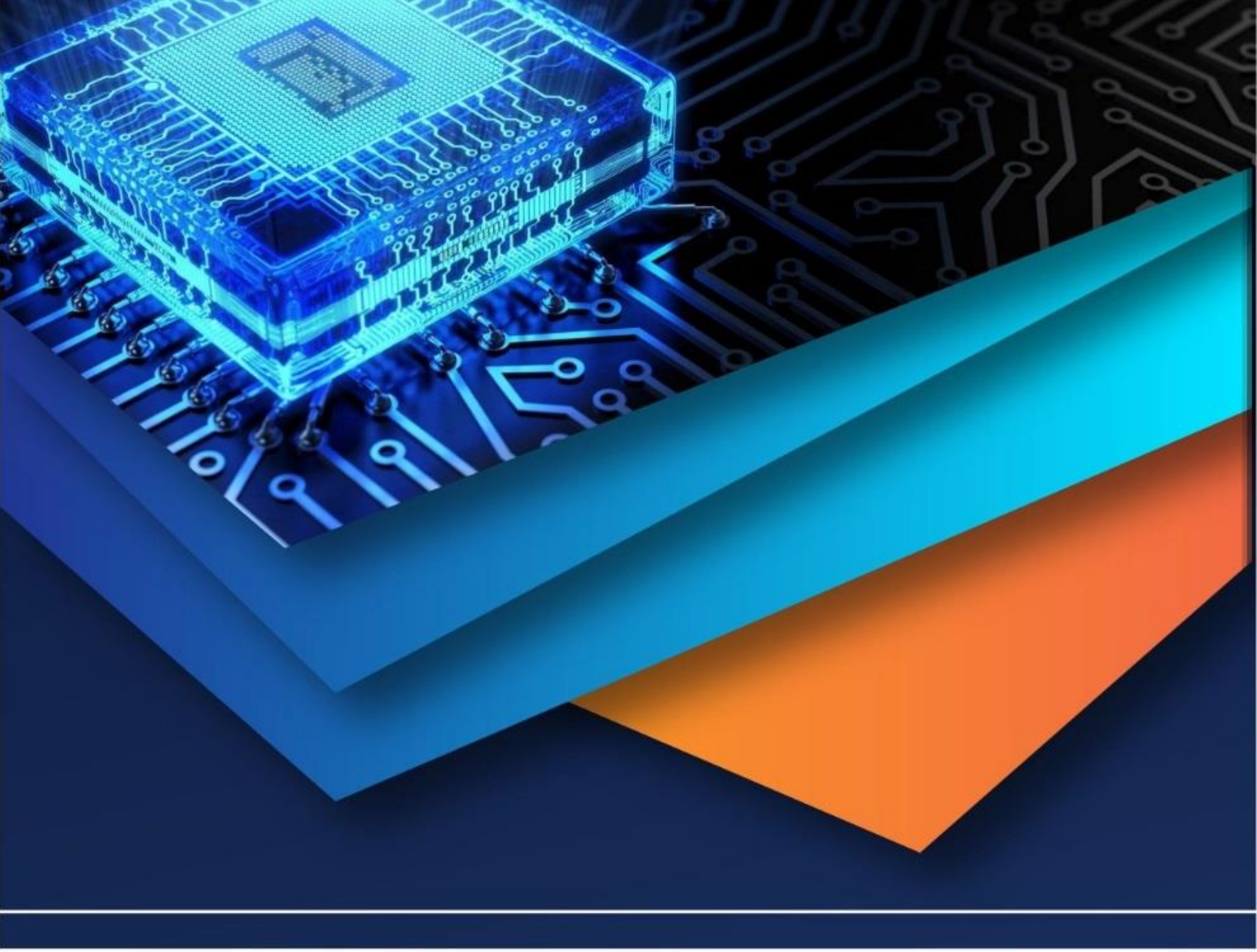
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With the help of this product we can predict the amount of positive, negative and neutral reviews of any hashtag running on twitter. This project can be used by companies to develop their business strategies and to assess the customer feelings towards their product.

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