

A person's hands are shown typing on a laptop keyboard. The laptop screen displays a web application with a sidebar and a main content area. A semi-transparent orange overlay covers the right side of the image, featuring the title text in a handwritten style. The background is a blurred office setting.

Sentiment Analysis in Python

AGENDA OF THE VIDEO

- What is sentiment analysis?
- Real life use cases of sentiment analysis.
- Sentiment analysis as a sub-field of Natural Language Processing
- NLP in Python (Libraries)
- Sentiment Analysis From Scratch in Python
 - Getting the Text.
 - Lower Case and Punctuation Removal.
 - Tokenization and stopword removal.
 - Reading the Positive and Negative Text corpus.
 - Implementing the algorithm
- Sentiment Analysis using textblob python Library
- Task for you.

What is Sentiment analysis?

Sentiment analysis as the name suggests is an application of NLP in which we try to estimate the sentiment of a written or spoken language.

1. He is wonderful human being ==> Positive Sentiment
2. It cannot be true ==> No sentiment. Just neutral.
3. This actor is horrible. ==> Negative Sentiment.

Real Life Use Cases of Sentiment Analysis

Sentiment analysis is a Huge topic and it has gain more interest in recent time when business need sentiment of customer's review

- Banks Use it to analyse their customer sentiment
- Google use it heavily in the google play store app.
- Business mind twitter data for getting opinion of general public on their products and services.

This sector is expected to grow more in future because of its promising future.

How does SENTIMENT ANALYSIS fit in with NLP?

NLP is a broad field which consists of tasks in which human language is involved. There are other sub tasks of NLP such as..

1. Machine Translation
2. Text Generation
3. Sentiment analysis
4. Bots
5. Text summarization
6. And many more...

NLP in Python

There are several libraries in python which makes the task of NLP or in particular sentiment analysis easier such as..

1. NLTK
2. SPACY
3. TEXTBLOB
4. GENSIM
5. Stanford CORE NLP
6. And many more...

Sentiment Analysis From Scratch in Python

- Getting the Text.
- Lower Case and Punctuation Removal.
- Tokenization and stopword removal.
- Reading the Positive and Negative Text corpus.
- Implementing the algorithm

Getting the Text

Without text, how are we going to perform the sentiment analysis.

So, this step is quite obvious.

Lower Case and Punctuation removal

After acquiring the text, the next step is do some basic processing on that acquired text.

1. Convert that text in lowercase.
2. Remove all the punctuation.

Tokenization and stopwords removal

After having done the preprocessing, next we need to convert the text into tokens and then get rid of all the unnecessary words (stopwords).

Reading positive and negative text corpus

To implement our sentiment algorithm, we need two corpus of positive and negative words which we can reference to check whether our text is positive or negative.

Algorithm

Finally, we implement our algorithm which is..

Initialize positive score and negative score variable as 0.

1. Loop through all the cleaned words (lowercase words after removing stopwords).
 - a. For each word, check if it is in the positive list, if yes, increment the positive score by 1
 - b. Do the same for negative words
2. If positive score $>$ negative score, then the given text is positive while otherwise it is positive

Sentiment analysis using Textblob

Now, the same procedure can be done through some external libraries which we listed in the beginning of the lecture.

We will use textblob in this video.

Task for you

Your task is to use.

1. Scrapy
2. Nltk
3. Gensim

For the same task that we did in this video and also make sure to check your sentiment analyzer with various different texts.



Thank you