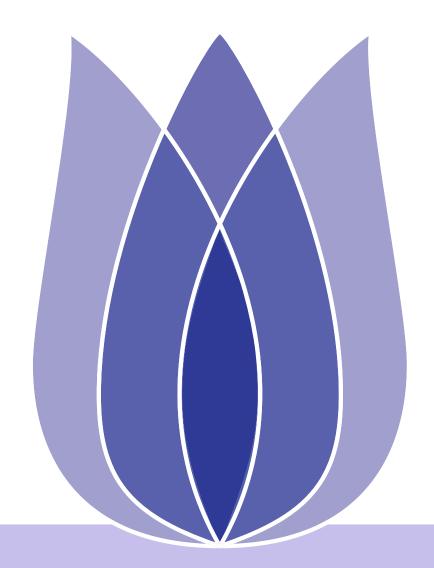
Sentiment Analysis On Movie Reviews

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This competition presents a chance to benchmark your sentiment-analysis ideas on the Rotten Tomatoes dataset. You are asked to label phrases on a scale of five values: negative, somewhat negative, neutral, somewhat positive, positive. Obstacles like sentence negation, sarcasm, terseness, language ambiguity. The Rotten Tomatoes movie review dataset is a corpus of movie reviews used for sentiment analysis, This project needs to classify the sentiment of sentences from the Rotten Tomatoes dataset.





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Data Collection

Download dataset from the kaggle project.

train.tsv contains the phrases and their associated sentiment labels.

Official website also have additionally provided a SentenceId so that you can track which phrases belong to a single sentence.

	Phraseld	Sentenceld	Phrase	Sentiment
0	1	1	A series of escapades demonstrating the adage	1
1	2	1	A series of escapades demonstrating the adage	2
2	3	1	A series	2
3	4	1	A	2
4	5	1	series	2



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Data Collection
 test.tsv contains just phrases. You must assign a sentiment label to each phrase.

Phrase	Sentenceld	Phraseld	
An intermittently pleasing but mostly routine	8545	156061	0
An intermittently pleasing but mostly routine	8545	156062	1
An	8545	156063	2
intermittently pleasing but mostly routine effort	8545	156064	3
intermittently pleasing but mostly routine	8545	156065	4



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To extract the text contents of the training set and the test set, a corpus was constructed, and the text contents of the training set and the test set were combined together to extract the emotional tags of the training set through concat function.

```
A series of escapades demonstrating the adage ...

A series of escapades demonstrating the adage ...

A series

A series

A series

A series

A series

A long-winded , predictable scenario .

A long-winded , predictable scenario A long-winded ,

A long-winded ,
```





Import The Stop Lexicon

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You need to determine how to deal with frequent words that don't make sense. A stop-word database is not helpful for emotion analysis. These words are called "stop-words". In English, they include words like "a", "and", "is" and "the".





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Throw these words directly to the computer, the computer can't calculate them, so we need to convert the text into vectors and use the word bag model for text feature engineering.

There are several common text vector processing methods, such as: word bag model, TF-IDF model, WORD2VEC model for text feature engineering.





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The word bag model learns vocabulary from all documents and then models each document by counting the number of occurrences of each word.
 The corpus is used to construct the word bag model, and the constructed word bag model is used to carry out feature engineering for each word in the training set and the verification set and turn it into a vector





TF-IDF Model

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■ TF-IDF is a statistical method used to assess the importance of a word to one of the documents in a document set or corpus.

The importance of a word increases proportionally with the frequency of its occurrence in the document, but decreases inversely with the frequency of its occurrence in the corpus.

Word frequency (TF) represents the frequency of entries (keywords) in the text.





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■ Machine learning and data mining are carried out for the text processed by the word bag model.

Use the logistic regression activation function to convert the output label of the category variable to a numeric variable.

The word bag method was used for text feature engineering, and sklearn default logistic regression classifier was used to verify the prediction accuracy on the set.





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The text in the test set was predicted using the LG_FINAL logistic regression classifier, the predicted results were viewed, the test results were added to the test set, each film comment in the test set was tagged, and submitted in the phrase ID-emotion tag format.

