

Malignant Comments Classifier Project

Submitted by:

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**INTRODUCTION**

* Business Problem Framing

There is so much we do a business online now a days and very one has free access to write on internet, These comments might cause a loss to the business to the post and there might not be very pleasant with the comments

So, if we can detect such not welcoming comments, then these can be taken appropriate action

* Conceptual Background of the Domain Problem

These comments might be filter or segregated technically if a machine can understand the comments.

* Review of Literature

There was a literature done on the application of these ML languages and there would be a vast area where it would be very important for appealing requirements

* Motivation for the Problem Undertaken

It would be motivating because, this would be helping to delete my unappealing comments on my post

**Analytical Problem Framing**

* Mathematical/ Analytical Modeling of the Problem

The model used was Logical regression model where the comments would be separated by not appealing and Normal comments

* Data Sources and their formats

The data source was 1,59,000 trained and 1,53,000 to test the model, there are in csv format and classified into 6 different types of comments and ID given for each comment.

* **Malignant:** It is the Label column, which includes values 0 and 1, denoting if the comment is malignant or not.
* **Highly Malignant:** It denotes comments that are highly malignant and hurtful.
* **Rude:** It denotes comments that are very rude and offensive.
* **Threat:** It contains indication of the comments that are giving any threat to someone.
* **Abuse:** It is for comments that are abusive in nature.
* **Loathe:** It describes the comments which are hateful and loathing in nature.
* **ID:** It includes unique Ids associated with each comment text given.

I see one comment can be classified into multiple brackets.

* Data Pre-processing Done

Removed all the punctuations, stop words and numerical from the comments

To understand the comments where on what and what are the adjectives and adverbs used, tagged the comment words

Vectorized the comments and found the frequencies of these comments

* Data Inputs- Logic- Output Relationships

Data input was comments on Internet and output might be classification of these comments into different category

* State the set of assumptions (if any) related to the problem under consideration

The bad comments might have very high bad adjectives , adverbs or nouns which are discriminated and these can be used to train the model for comments differentiated

* Hardware and Software Requirements and Tools Used

The hardware requirement -N/A

Software-Python as a coding platform

**Model/s Development and Evaluation**

* Identification of possible problem-solving approaches (methods)

The main assumptions made to solve the problem was adjectives and adverbs used in bad comments are definitely different from normal comments and if these are used for classification, then the model would be good for classifation

* Testing of Identified Approaches (Algorithms)

The algorithm used for classification problem was Logistic classification model

* Run and Evaluate selected models

Have used the confusion metrics and classification metrics to evaluate the model

* Key Metrics for success in solving problem under consideration

Confusion metrics

* Visualizations

Word Cloud is the best visualization showing the comments which are loud in every category of classification

* Interpretation of the Results

The model was able to classify the comments with 95 percent accurate

**CONCLUSION**

* Key Findings and Conclusions of the Study

Offensive comments are differentiated to normal comments.