CYBER BULLYING RECOGNITION SYSTEM FOR FACEBOOK, TWITTER USING ML ALGORITHMS FOR SENTIMENT ANALYSIS

ALOK | SUNNY | BIBEK | Dr. ANURADHA G | SCOPE

Introduction

Cyberbullying can cause huge mental pain and tension. Much the same as some other survivor of harassing, cyberbullied kids experience nervousness, dread, sadness, and low confidence. They likewise may encounter physical indications, and battle scholastically. In any case, focuses of cyberbullying likewise experience some exceptional outcomes and negative sentiments. Facebook comments and Twitter tweets and statuses will be the main concern of this project

Motivation

Cyberbullying is the utilization of electronic communication to bully an individual by sending dangerous text utilizing social media, texting or through digital texts. So beat these issues detecting the cyberbullying is vital in now daily which will assist with stopping cyberbullying on social media networks.

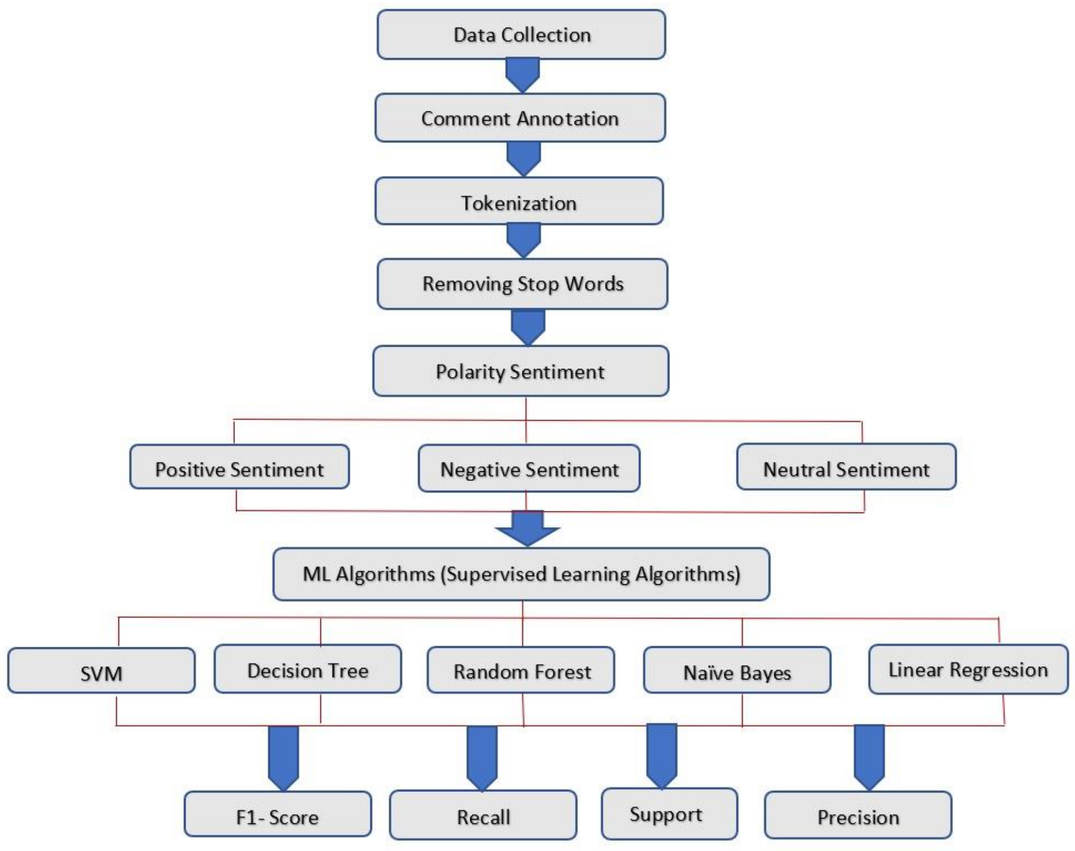
SCOPE of the Project

The main aim of this project is to detect the cyberbullying technique which will help to improve and monitoring the cyberbullying on social sites.

In this project we fetch the tweets from twitter accounts as well as Facebook comments and preprocess the twits and images and applying generated model will detect the cyberbullying or not.

Methodology

- The Proposed work of this project is:
- Collecting the dataset of cyberbullying words and preprocessing it and then applying different machine techniques.
- Generating different ML algorithms Model.
- Fetch the comment from Facebook account, tweets from Twitter account and preprocess it.
- Apply generated model on the fetched comment, tweets and get final output cyberbullying or not.



In this project we present sentiment analysis of Twitter and Facebook comments using Naive Bayes Classifier, logistic regression, Random forest, Decision tree and Support Vector Machine (SVM). The essential and basic thought of the project is that, realizing how individuals feel certain Twitter and Facebook comments can be utilized for classification.

We are going to develop using python and web technology. First we will search and find out the dataset and will download it for train the model. We will preprocess the data and then transferred to Tf-Idf after downloading the dataset first. Now with the help of Naïve Bayes Classifier, Support Vector Machine, Decision Tree, Logistic Regression, Random forest; we train the dataset and generate model separately. After that we will be developing a web application using FLASK framework. We will fetch the real time comments from Twitter and then we apply generated model to these fetched comments and check the texts are cyberbullying or not. We are going to use python language as backend in our project, Mysql the database of the project and for frontend html, css, javascript etc. are used.

Results

Cyberbullying has been around for some time currently, however individuals have quite recently started understanding that difficulty. Society has developed from numerous points of view but then remained the same in numerous others. Just the techniques have changed. In this project, we took a gander at a portion of the causes behind cyber-bullying and have prepared a statistical analysis of various algorithms used in the cyber-bullying detection systems. So many techniques contributing in cyber-bullying detection, mainly Machine Learning techniques and Natural Language Processing techniques. Sentiment analysis has popularized due to the availability of abundant opinions that resides in social networks such as Twitter, Facebook. In this project we present sentiment analysis of Twitter and Facebook comments using Naive Bayes Classifier, logistic regression, Random forest, Decision tree project and Support Vector Machine (SVM). The essential and basic thought of the is that, realizing how individuals feel certain Twitter tweets and Facebook comments can be utilized for classification.

FACEBOOK

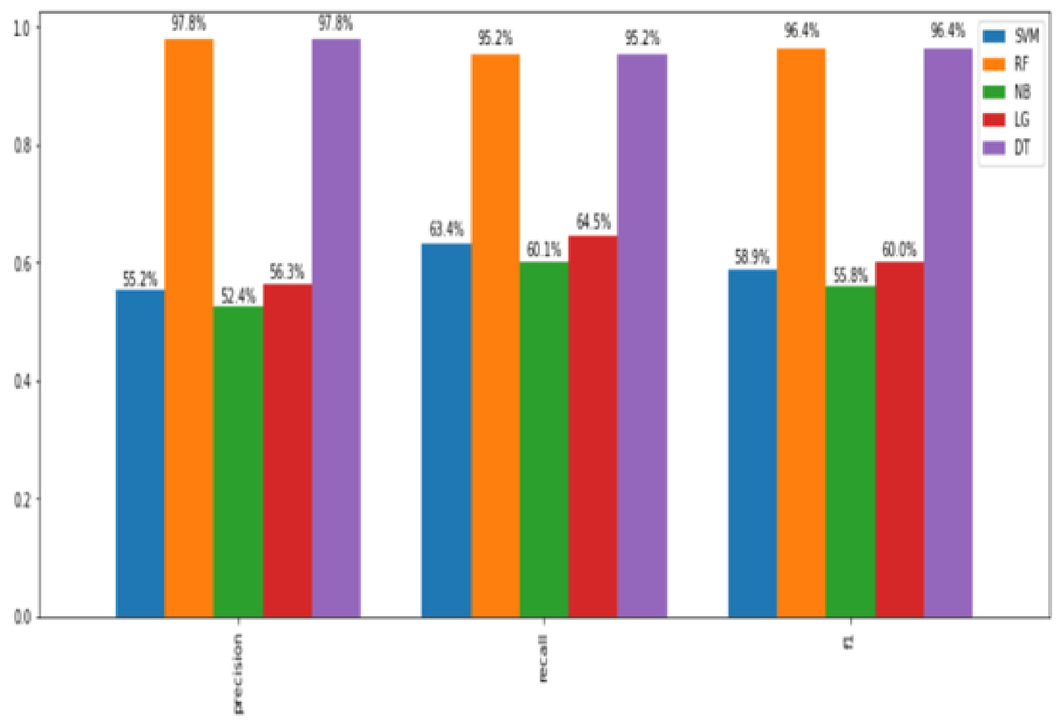


Fig: Bar graph of various ML Models using sentiment analysis on Facebook

TWITTER

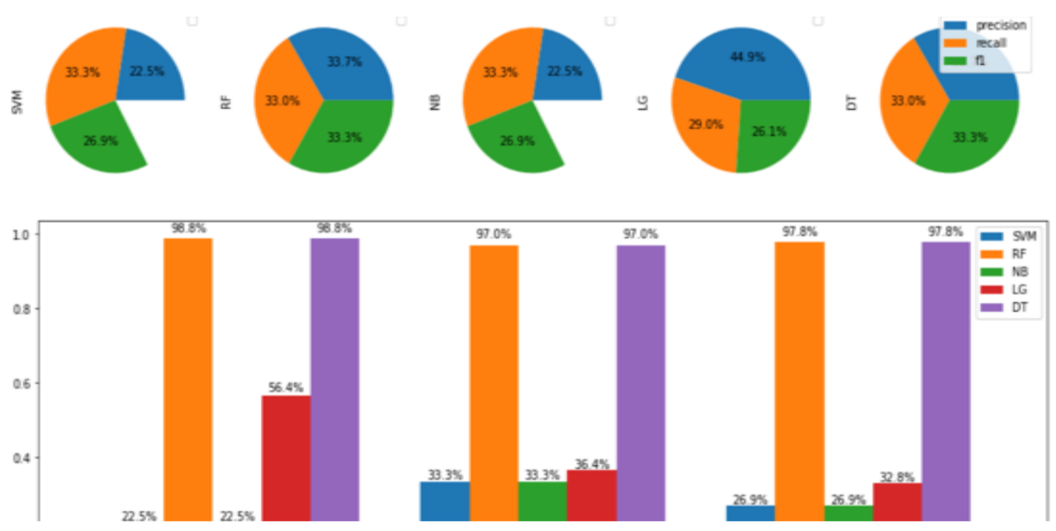


Fig: Pie chart of Precision, recall, f1 and bar graph of various ML models using sentiment analysis on Twitter

Conclusion

In the project, we have generalized five different Machine Learning Algorithms for sentiment analysis of the Facebook data. The generalization of different approach and methods, we have studied all the different approach to make Sentiment Analysis in a better way. Different parameters are taken in consideration for different analysis that are positive, negative, and neutral. The presentation of these algorithm will make a good understanding for making the performance better. Any individual can predict which algorithm will work far better for making sentiment analysis. The post and status are posted in large number where the best technique will prove to be the best out of it and we are in approach to make a comparative analysis of different algorithms the help of tools.

References

f[1] Di Capua, M., Di Nardo, E., & Petrosino, A. (2016, December). Unsupervised cyber bullying detection in social networks. In *2016 23rd International conference on pattern recognition (ICPR)* (pp. 432-437). IEEE.

[2] Singh, S., Thapar, V., & Bagga, S. (2020). Exploring the hidden patterns of cyberbullying on social media. *Procedia Computer Science*, *167*, 1636-1647.