Identify Cyber Bulling words using Clustering for Social Media

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Abstract— Today the Internet may be a very important a part of each day's life, and lots of information is generated. Discovering data from vast quantity of information manually may be very difficult, oft impossible. Researchers in cyber security face increasing amounts of knowledge and it's evident that additional powerful tools area unit required to handle. Cyber bullying indirectly, direct attacks (messages sent on to their children), and cyber bullying (with or while not the victim's information to help fellow cyber bully others) are two types. Indirectly concerned in cyber bullying, harassment adults actually because it's too dangerous.

I. Introduction

Cyber bullying is defined as:

- The process that a person or group that is intended or harm others, repeatedly intentional, aggressive behavior and the use of information and communication technologies to support.
- The use of communication technologies for the goal of harming another person.
- Internet Service web pages and instant messages to another person harm or mobile technologies such as SMS text messages with the intent to use, such as discussion groups.

Cyber bullying different from other forms of online behavior can be seen as being. Some moments are a form of cyber stalking, cyber bullying as internet trolling involves taking the view that a more strategic approach.

What the communication bullying to intimidate, control, manipulation, below are examples of cyber formation, put the notorious liar, or to degrade the recipient would like to include. Action, deliberately repeated and aggressive behavior are intentionally to harm another. The National Crime Prevention Council defines Cyber bullying.

The following fig. 1 shows framework model is used in this proposed system is Abuse image detection and Abuse text detection.
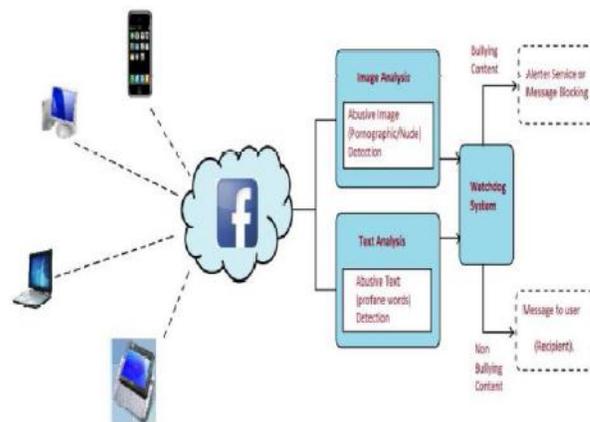

Figure1. Framework for the cyber bulling detection

Rest of the paper is organized in the following manner, Section I contains all the introductory requirements to understand the research area. It also provides the detailed explanation about clustering techniques, about cyber bulling, Section II presents literature survey on existing techniques related with this domains, we studied wide variety of existing mechanism, algorithms and architectures, In section III we present our proposed work and algorithm, Section IV result analysis shows in form of charts that is calculated result by our proposed algorithm and also compared with existing algorithms and last section V we conclude the work done by us.

II. Literature Survey

Amrita Mangaonkar, Allenoush Hayrapetian, Rajeev Raje, "Collaborative Detection of Cyberbullying Behavior in Twitter Data" [2] conferred improved analysis detection task mistreatment the principles of cooperative computing. Totally different cooperative paradigms are steered and mentioned during this paper. Preliminary results indicate associate degree improvement in time and accuracy of the detection mechanism over the stand- alone paradigm. Cyber bullying is one in every of the well-known issues increasing with the outstanding growth of social media.

Pokharkar Anuja, Shelake Shubham, Kate Nalini, Murbade Arun, "Protective protect for Social Networks to Defend Cyberbullying and on-line Grooming Attacks" [4] In the projected system the author has overcome the issues of existing system. the present system [15] [16] will solely find the attack like Cyberbullying, on-line grooming etc. however he introduced the projected system because the Defensive mechanism acts on that, and perform action to stop system from external attacks.

Divyashree, Vinutha H, Deepashree N S, "An Effective Approach for Cyberbullying Detection and avoidance" [5] This proposes an efficient approach to find cyber bullying messages from social media through a SVM classifier formula. This gift ranking formula to access highest visited link and conjointly give age verification before access the actual social media. The experiments show effectiveness of our approach.

Karthik Dinakar Roi Reichart Henry Lieberman Modeling the Detection of matter Cyberbullying [6] we tend to decompose the detection drawback into detection of sensitive topics, loaning itself into text classification sub-problems. We tend to experiment with a corpus of 4500 YouTube comments, applying a variety of binary and multiclass classifiers. We discover that binary classifiers for individual labels beat multiclass classifiers. Our findings show that the detection of matter cyberbullying are often tackled by building individual topic-sensitive classifiers.

K. Nalini Dr. L. Jaba Sheela A survey on Data mining in Cyber Bullying 2014 [7] so as to cyberbullying challenges the author designed an efficient framework that includes word-level options and user primarily based options to find and stop offensive content IRC logs. We must always conjointly style the effective strategy to find and valuate the extent of unpleasantness of a user and word level unpleasantness during a message and that we ought to check whether or not this projected framework is economical and effective enough to be deployed on real time. This projected resolution provides the first means by that we tend to determine the bullying, to boot mistreatment the text and data processing technique we tend to analysis text content within the posts and supply the conclusion is there any quite bullying exist or not.

Vinita Nahar1, Xue Li2, Chaoyi Pang3 an efficient Approach for Cyberbullying Detection [8] The author projected an efficient approach to find cyberbullying messages from social media through a weight theme of feature choice. This gift a graph model to extract the cyberbullying network that is employed to spot the foremost active cyberbullying predators and victims through ranking algorithms. The experiments show effectiveness of our approach

III. Proposed System

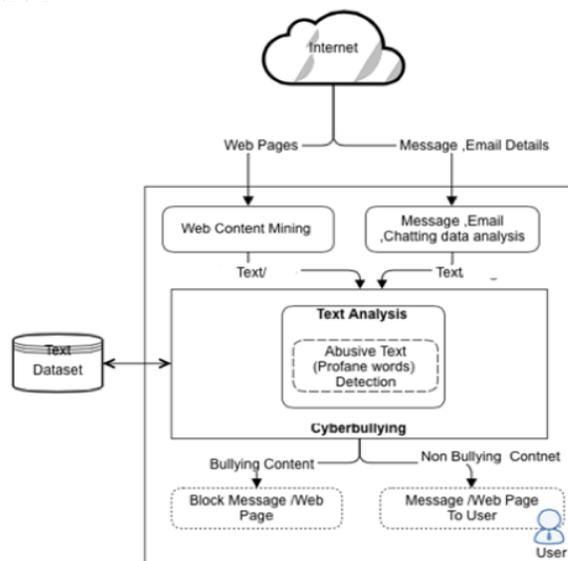The proposed data model can be understood using the given figure 1.

Figure 2 Proposed Data Model

Proposed Algorithm

CyberBullying (string chat)
{
    Initiate;
    Public void chat();
    Public void userRating();

Step 1:
    Classifier()
    {
        # Threat
        # Insult
        # Curse
        # Intelligence
        # Sexual
        # Defense
    }

Step 2:

    # define method chatAnalysis(Classifiers, Tags,
text)
    {
Sentence analysis;
Keywordcount, keyword identification
Generate string patterns
//use svm classifier
    }

Step 3:

        SVM candidateSV = { closest pair from opposite
                    classes }
            while there are violating points do
                    Find a violator candidate
            SV = candidateSV S violator
             if any αp < 0 due to addition of c to S then
                    candidateSV = candidateSV \ p
                    repeat till all such points are
                            pruned
                end if
        end while

            If (word == abusive)
                {
                    Identify category (from 1 to 6);
                    Identify Tag (from 1 to 3);
                    Replace word from DB;
                }
CountKeywords (){
        # countno_of_words;   // count of words
        # countNo_of_abuse_word // count of abusive
words   recall=(no_of_Abuseword)/(No.of Words-No-
Abusewords);
        precision=(no_of_Abuseword)/(No.of Words);

}

// End of Analyze Method
}

IV. Result Analysis

The given section provides the sympathetic regarding the evaluated results and parameters. These parameters are shows the effectiveness of the proposed technique. We implement our project using JDK, eclipse and MY SQL.
Evaluations Parameters:
Evaluation Parameters of our project are
- Recall
- Precision
- User Rating
- Accuracy
- Time Complexity

Recall (R) is defined as the number of true positives (T_p) over the number of true positives plus the number of false negatives (F_n).

$$R = \frac{T_p}{T_p + F_n}$$
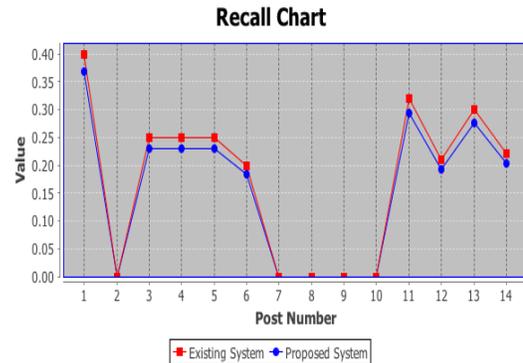
Graph for Recall

Figure 3 Recall Graph proposed vs existing system

Precision (P) is defined as the number of true positives (T_p) over the number of true positives plus the number of false positives (F_p).
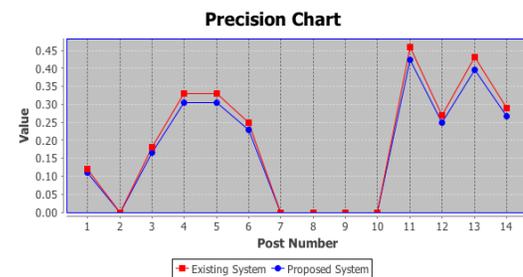
Graph for Precision

Figure 4 Precision Graph proposed vs existing system
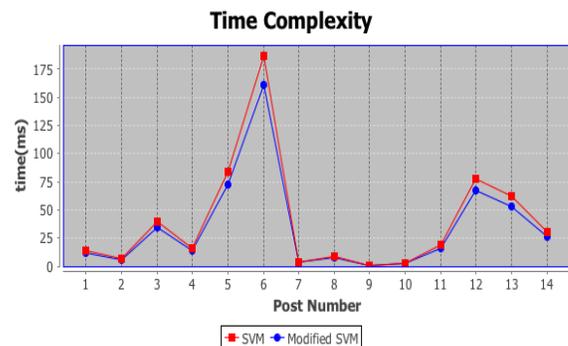
Graph OF Time Complexity

Figure 5 Time Complexity Chart SVM vs Modified SVM

V. Conclusion

In this paper we propose an approach for cyber bullying detection and the identification of the most active predators and victims. This captures our idea to scale-up inductive words within the harmful posts. However, bullying-like feature sets are limited to a static set of keywords. Therefore, dynamic strategies are required to be implemented to find emerging harmful and abusive words from the streaming text. To improve classifier's training in the absence of a sufficient number of positive examples, oversampling of positive posts is used. Also, throughout our experiments, we note that comparatively better performance was observed for false negative compared to false positive cases in individual and combined datasets. This is because of the fewer positive cases available for classifier's training.

References

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Authors Profile

Alok Bichhwe pursed Bachelor of Engineering from Jawaharlal Institute of Technology Borawan (MP) in 2013. He is currently pursuing Master of Techonology Department of Cyber Security from Vikrant Institute of Technology & Management Indore, since 2014. His main research work focuses on clustring Algorithms, cyber security.

Mr. Ravi Khatri currently working as Associate Professor at Vikrant Institute of Technology & Management Indore and member of IACSIT and ISTE and having 20 research paper and main research area IOT and collaborative Computing He has 8 years of teaching experience.