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CYBERBULLYING DETECTION ON TWITTER DATA

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ABSTRACT

Social media is a platform where many young people are getting bullied. As social networking sites are increasing, cyber bullying is also increasing day by day. To identify word similarities in the tweets made by bullies and make use of machine learning model and automatically detect social media bullying actions. The goal of this Paper is to show the implementation of software that will detect bullied tweets, posts, etc. A Machine Learning model is proposed to detect and prevent bullying on Twitter. SVM (Support Vector Machine) classifier is used for training and testing the social media bullying content and proposed approach can detect cyber bullies with high accuracy.

Keywords: Cyberbullying, Bullying, Non-Bullying, SVM.

1. INTRODUCTION

The Internet has created never before seen opportunities for human interaction and socialization. In the past decade, social media, in particular, has had a popularity explosion. From MySpace to Facebook, Twitter, Flickr, and Instagram, people are connecting and interacting in a way that was previously impossible. The widespread usage of social media across people from all ages created a vast amount of data for several research topics, including recommender systems link visualization, and analysis of social networks. The growth of social media has created an excellent platform for communications and information sharing, it has also created a new platform for malicious activities, such as Spamming, trolling, and cyberbullying. According to the Cyberbullying Research Center, cyberbullying occurs when someone uses the technology to send messages to harass, mistreat, or threaten a person or a group. Unlike traditional bullying where aggression is a short and temporary face-to-face occurrence, cyberbullying contains hurtful messages that are present online for a long time. These messages can be accessed worldwide and are often irrevocable. Laws about cyberbullying and how it is handled differ from one place to another. the states incorporate cyberbullying into their bullying laws, and cyberbullying is considered a criminal offense in most of them. Popular social media platforms, such as Facebook and Twitter, are very vulnerable to cyberbullying due to the popularity of these social media sites. Although strict laws exist to punish cyberbullying, there are very less tools available to effectively comb at cyberbullying. Social media platforms provide users with the option to self-report abusive behavior and content in addition to providing tools to deal with bullying. For example, Twitter has features that include locking accounts for a brief period of time or banning the accounts when the behavior becomes unacceptable. The body of work produced by the research community with regard to cyberbullying in social networks also needs to be expanded to get better insights and help develop effective tools and techniques to tackle the issue. To identify cyberbullies in social media, we first need to understand how social media can be modeled. The common way of modeling relationship in social psychology is to represent it as a signed graph with positive edge that corresponds to the good intent and negative edge that corresponds to malicious intent between people.

2. EXISTING SYSTEM

The Existing System is based on supervised learning algorithm that solves classification problems and is based on the Bayes theorem. It is mostly used in text classification problems that necessitate a small training dataset. Supervised Learning Algorithm requires large time to process the data and it shows slower performance. Supervised Learning Algorithm cannot be implement on large training data set.

DISADVANTAGES

- Small data records are required to achieve a good result.
- Shows lower performance than the other classifiers according to the type of problem.
- Require More Time.

3. PROPOSED SYSTEM

In our proposed System we are using Support Vector Machine is a supervised classification of Machine Learning Algorithm. The Data Preprocessing will be performed on the fetched Tweets. Preprocessed tweets will be passed to SVM to calculate the probabilities of fetched tweets to check whether a fetched tweet is bullying or not. If the probability of fetched tweet lies in the range of 0 to 0.5, then the tweet will not be considered as a bullied tweet. If the probability of the fetched tweet is above 0.5, it will be added to the database and then further 10 tweets. From that

users' timeline will be fetched, because it cannot directly say the person is bullying someone or not because it is might possible he's having a conversation with his friend hence to make sure whether he was bullying someone or not we will fetch last 10 tweets from his timeline and preprocessing will be performed over the tweets. Again, the list of user's tweets will be passed to the SVM is to predict the results of the tweets. And again, the average probability of that user's tweets will be calculated and if it lies above 0.5 then it will be considered as a bullied tweet and it will be recorded in our database and proposed approach can detect cyber bullies with high accuracy.

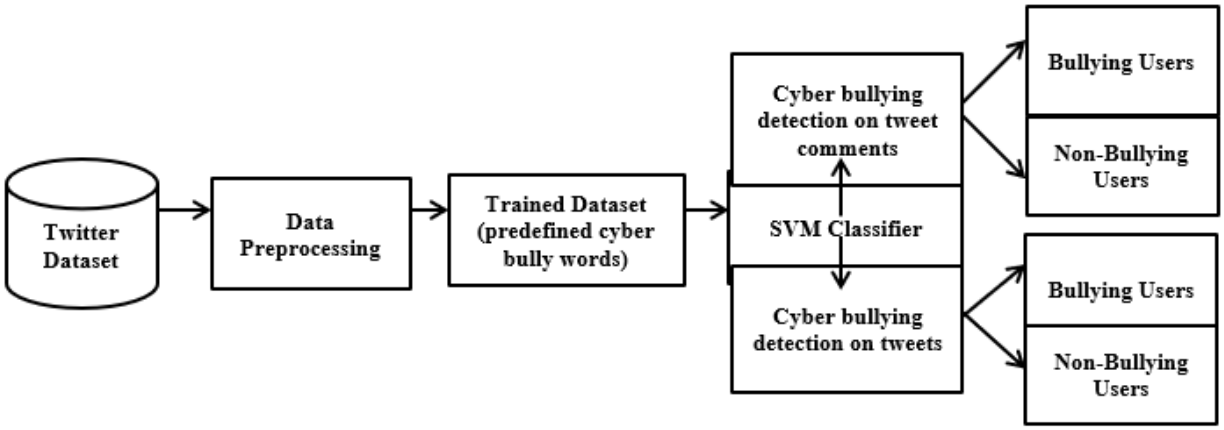

Figure 1: Architecture Diagram of Proposed System

ADVANTAGES

- The accuracy for detecting cyber bullying content has also been great for Support Vector Machine.
- The model will help people from the attacks of social media bullies.

4. METHODOLOGY

This paper will helps to overcome the problem of bullying users and non-bullying users. In our model we have already stored some predefined bullying words. From Twitter dataset the data's are send to preprocessing stage once it send then it preprocess the data and send it to the predefined dataset then the data's are send to the SVM classifier the SVM classifier separate the data from the predefined data, So SVM classifier divides the data into two categories bullying users and non-bullying users.

5. RESULT

In our research, if the user uses the bullying words on tweet or comment section the user blocked automatically, then the user comment is below the probability, the admin has the rights to unblock the user.

6. CONCLUSION

The digital revolution and the rise of social media enabled great advances in communication platforms and social interactions, a wider proliferation of harmful behavior known as bullying has also emerged. Aiming to address this bullying, this thesis presents a novel framework to identify bully users from the Twitter social network. The extensive research on bullying and non-bullying users for better understanding of the relationships between users in social media, to build a SVM based on bullying tendencies. In our experimental research, the evaluation of our proposed SVM methodology to detect bullies from twitter. The experimental results show that our approach achieves high accuracy, is scalable, and is precise in detecting bullies from the dataset. Overall, the objective of this work is to design and implement an efficient and scalable approach for identifying bullies on the Twitter network with high accuracy.

7. FUTURE WORK

This approach focuses on extracting bullying and non-bullying users from the predefined dataset with the help of SVM classifier. In future will implement emojis, stickers and images.

8. REFERENCE

[1]. R. Plutchik, "A general psychoevolutionary theory of emotion," in Theories of Emotion. 1980, pp. 3–33.
[2]. W. Medhat, A. Hassan, and H. Korashy, "Sentiment analysis algorithms and applications: A survey," Ain Shams Eng. J., vol. 5, no. 4, pp. 1093–1113, Dec. 2014.
[3]. L. Tang and H. Liu, "Community detection and mining in social media, Synth. Lectures Data Mining Knowl. Discovery, vol. 2, no. 1, pp. 1–137, Jan. 2010.
[4]. S. Bhagat, G. Cormode, and S. Muthukrishnan, "Node classification in social networks," in Social Network Data Analytics. 2011, pp. 115–148.

[5]. J. Tang, Y. Chang, C. Aggarwal, and H. Liu, "A survey of signed network mining in social media," in Proc. ACM Comput. Surv., vol. 3, 2016, pp. 42:1–42:37.
[6]. J. Kunegis, J. Preusse, and F. Schwagereit, "What is the added value of negative links in online social networks?" in Proc. 22nd Int. Conf. World Wide Web (WWW), 2013, pp. 727–736.
[7]. Z. Wu, C. C. Aggarwal, and J. Sun, "The troll-trust model for ranking in signed networks," in Proc. 9th ACM Int. Conf. Web Search Data Mining, Feb. 2016, pp. 447–456.
[8]. R. Zhao, A. Zhou, and K. Mao, "Automatic detection of cyberbullying on social networks based on bullying features," in Proc. 17th Int. Conf. Distrib. Comput. Netw., Jan. 2016, pp. 1–6.
[9]. V. K. Singh, Q. Huang, and P. K. Atrey, "Cyberbullying detection using probabilistic socio-textual information fusion," in Proc. IEEE/ACM Int. Conf. Adv. Social Netw. Anal. Mining (ASONAM), Aug. 2016, pp. 884–887.
[10]. H. Hosseinmardi, S. A. Mattson, R. I. Rafiq, R. Han, Q. Lv, and S. Mishra, "Detection of cyberbullying incidents on the Instagram social network," CoRR, vol. 1503.03909, 2015.
[11]. J.-M. Xu, X. Zhu, and A. Bellmore, "Fast learning for sentiment analysis on bullying," in Proc. 1st Int. WISDOM, 2012, pp. 10:1–10:6.
[12]. A. Squicciarini, S. Rajtmajer, Y. Liu, and C. Griffin, "Identification and characterization of cyberbullying dynamics in an online social network," in Proc. IEEE/ACM Int. Conf. Adv. Social Netw. Anal. Mining, Aug. 2015, pp. 280–285.
[13]. P. Galán-García, J. G. De La Puerta, C. L. Gómez, I. Santos, and P. G. Bringas, "Supervised machine learning for the detection of troll profiles in Twitter social network: Application to a real case of cyberbullying," Logic J. IGPL, vol. 24, no. 1, pp. 42–53, 2015.
[14]. D. Chatzakou, N. Kourtellis, J. Blackburn, E. De Cristofaro, G. Stringhini, and A. Vakali, "Mean birds: Detecting aggression and bullying on Twitter," in Proc. ACM Web Sci. Conf., Jun. 2017, pp. 13–22.
[15]. L. Cheng, J. Li, Y. N. Silva, D. L. Hall, and H. Liu, "XBully: Cyberbullying detection within a multi-modal context," in Proc. 12th ACM Int. Conf. Web Search Data Mining, Jan. 2019, pp. 339–347.
[16]. H.-T. Kao, S. Yan, D. Huang, N. Bartley, H. Hosseinmardi, and E. Ferrara, "Understanding cyberbullying on Instagram and Ask.Fm via social role detection," in Proc. Companion Proc. World Wide Web Conf., May 2019, pp. 183–188.