DATA MINING APPROACH TO DETECT ABUSIVE WORDS IN SOCIAL MEDIA

1K NAGENDRAN, 2S.M.AJIT BALAJI, 3P.CHANTHRIKA
1Assistant Professor, Department of Information Technology, Sri Krishna College of Engineering and Technology, Coimbatore
2Final Year, Department of Information Technology, Sri Krishna College of Engineering and Technology, Coimbatore.
3Final Year, Department of Information Technology, Sri Krishna College of Engineering and Technology, Coimbatore.

ABSTRACT

with the explosive growth of social media, online community has acquired an indisputable importance in today’s society. Strong social effect occurs with high impact of interpersonal communications. The degree of anonymity from internet makes the online communities often invoked with abusive behaviors of some users. The degree of abuse varies on community but the user words and actions should not affect others like religion, race based etc. Abusive behaviors of users must be taken care by community maintainers and it is needed to take action on them. The communities are collapsed by these abusive behaviors. Inside community it may trigger legal issues and make the community members to leave from that community when unwanted or abusive messages are posted by the sender. Our proposed work display the alert message by showing it was an unwanted message and block the message at the sender side. Our system completely disregards message content for automatic abuse detection to ensure the privacy among users.

Keywords: Data Mining, Gradient Algorithm, burst Algorithm.

I. INTRODUCTION

With the rapid growth in popularity of social networking and messaging apps, online social networks (OSNs) have become a part of many people’s daily lives. Social Network based research works mainly focus on discovering the information behind the data collected [1]. User privacy gets affected due to this sharing of items in social media. Privacy management in multi-party environment unable to control and identify whether items are shared or not. This paper proposes a mechanism for privacy Management to resolve conflicts in social media by merging multiple user privacy preferences into single policy.

II. BACKGROUND

In an online environment, the problem of distinguishing abusive users is widespread as machines have little understanding of the natural language and behavior used by people online. However some users exhibiting abusive behaviors due to the anonymity provided by the internet [2]. Firstly, topological measures are used to extract a conversational network from raw chat logs and characterize the abusive task.

III. LITERATURE SURVEY

1. “A scalable optimization approach for fitting canonical tensor decompositions,”

Non linear least squares (NLS) methods are used to obtain high accuracy. In this paper the discussion on the mathematical calculation of the derivatives and show that they can be computed efficiently, at the same cost as one iteration of ALS. The gradient based optimization methods are most accurate than ALS based on computational time.

www.turkjphysiotherrehabil.org
2. “When are over complete topic models identifiable? Uniqueness of tensor tucker decompositions with structured sparsity,”

Higher-order expansion conditions set allows for over complete models involves perfect matching of higher order observed words from latent topics. The identifiability results in uniqueness of Tucker decompositions


Latent representations are familiar for unsupervised feature learning nowadays. This paper specifies over complete models which can be identified observable moments in certain order. While complete topic models are not able to identifiable then it is needed to establish generic identifiability.

PROBLEM DEFINITION

Social Media mainly focuses on Knowledge discovery for enhancing life of people, but some Abusive Behaviors of some users collapse the entire community and creates legal issues. This paper aims to reveals the connection between depression and factors involves demographic. Datasets are collected and annotated using manual efforts.

Advantages
- Proves that the context period with large data sets involves more noise.
- Abuse in User Community will be detected with user features.
- Cross-Validation method used to measure precision and recall.
- Data bias of the model is evaluated using selection bias test.

SYSTEM ARCHITECTURE

- Words get extracted, when the user wants to send messages using User ID and Password.
- Extracted words are sent to mapping algorithm.
- Words are checked by short text classifier based upon previously loaded dataset.
- If Abuse words are detected, words will get reported depends on chat history of the specific user.
- Number of Attempts reaches threshold value; actions will be taken against the user who involves in it.
- In the sender side itself the abusive words gets blocked and not allowed to send further messages.
- Without affecting the privacy, the firewall graphical user interface helps the user to involve in detection process.

SOFTWARE DESCRIPTION

.NET framework is mainly used for secure interoperability and rapid integration, development of programs. It also provides the feasible solution for components to interact on different platforms. .NET framework contains two main features 1. Common Language Runtime (CLR) 2. Hierarchical set of Libraries.

CLR is responsible for providing environment for execution of programs. It also includes features like

- Memory Management’
- Enforcing Security Constraints.
- Execution and loading of programs with version control.

CLR provides garbage collection and allocation of memory and also impose constraints using CTS (Common Type System) which ensures compatibility and interoperability of all classes in common way.

The Class Library contains set of distinct classes with independent functionality, which provides collections, File IO, Threading and Networking etc.

IV. METHODOLOGY

4.1 Managed Data

Garbage collection, Deal location facilities and memory allocation will be provided by CLR. Managed Data used by some .NET languages such as C#, JScript.NET and VisualBasic.NET whereas C++, do not. Based on the used
language, targeting CLR can, impose constraints on the available features [3][10][14][15]. Both managed and unmanaged data in .NET applications that doesn’t get garbage collected but unmanaged code is looked after instead.

4.2 Advantages

It takes user features to detect abuse in the community rather than the message content [4][8][12][13]. It uses 10-fold cross validation to measure the model’s overall precision and recall. It uses a selection bias test, which is designed to evaluate how much the model suffers from data bias [5][9].

4.3 Choosing algorithm

Here using two types of algorithms 1) Gradient descent algorithm 2) Burst algorithm these two algorithms are using for classifier problems to find accuracy of these algorithms

4.4 Prediction

Finally find the best algorithm then apply the input we got the maximum accuracy of output.

PROPOSED SYSTEM

Feature extraction algorithms which aim at removing and assessing the selection bias problem prevalent in abusive word detection. Our work aims at revealing the relationship between demographic factors and depression. We invested manual efforts in collecting and properly annotating our datasets. Nowadays, many applications are built on top of social networks to provide free services where users may need to input their credentials and profile information in exchange for some interesting analytics or insights [6][11][12].

ALGORITHM

1. GRADIENT DESCENT ALGORITHM

Gradient descent is a technique that finds a local minimum of a differential function to minimize the cost function [7]. The coefficient initial value as 0.0 or random value. The slope of the function refers to the derivative of the cost. The coefficients that change on each update will be controlled by learning rate parameter (alpha). When the cost of coefficients close to 0.0 stop the repetition process. In machine learning function it is needed to estimate best target function using set of coefficients but Gradient descent will be slow on large data sets.

Cost value=f (coefficient)

Delta=derivative (cost value)

Coefficient=coefficient-(alpha*Delta)
BURST DETECTION ALGORITHM

Burst detection is a process of identifying the unusual popular events over time. Burst Detection is also applied to detect continuous stream of events in discrete batches.

In this algorithm, the sum of total number of events at particular time point is $D$ and $R$ represents sum of target events. The proportion $P_0$ as

$P_0 = R/D$.

The bursty state probability $P_1 = c*P_0$

Where $c$ is a constant and $P_0$ represents base line probability. The target events must enter into the bursty state when the constant value is more.

The Strength of the bursty state can be calculated based on fit cost. The strength will get increased if fit cost value decreases.

V. PERFORMANCE ANALYSIS

INPUT AND OUTPUT

User Account Page

Adding Abusive Words on Admin Side
VI. CONCLUSION AND FUTURE WORKS

Social media becomes a big boon. The impacts of the social media play a vital role in the day to day life. Even though it has both pros and cons it’s our duty to rectify the cons. One such attempt is to reduce the use of abuse words in social media like face book, whatsapp, etc. this includes both private chats, comments and group chats. The proposed system designed to identify people who are abusing potential online users.
We proposed a framework that derives a new tensor technique for latent features from multiple OSNs and explores various features from data logs of OSNs for abusive word detection. The aim of the project is to abuse word detection and blocks it from sender side to avoid unwanted conflicts. The future work includes issues from the perspective of social network providers like face book, Instagram etc.

REFERENCES


