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A machine learning model to categorized the Noxious comments from OSN

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ABSTRACT

Today's modern life is completely based on Internet. Now a day's people cannot imagine life without Internet. From last few years people share their views, ideas, information with each other using social networking sites. Such interchanges might include diverse sorts of substance such as text, image, audio and video data. One fundamental issue in today On-line Social Networks (OSNs) is to give users the ability to control the messages posted on their own private space to avoid that unwanted content is displayed. Up to now OSNs provide little support to this requirement. Hence Online Social Networks should be extremely secure and should protect the individual's privacy. The Online Social Network provides the security measures but they were limited. While Socializing the user can access the profile of other members which are involved in social sites and even share data such as images, text, videos etc. One critical issue in user wall is to give users the capability to control the messages posted on their own personal space in order to avoid unwanted content to be displayed on their wall. To overcome this problem, we propose a system allowing OSN users to have a direct control on the messages posted on their walls. This is achieved through a flexible rule-based system, that allows users to customize the filtering criteria to be matter-of-fact to their walls, and a Machine Learning based soft classifier automatically labelling messages in content-based filtering. Keywords: On-line Social Networks (OSNs), Machine learning, short Text Classifier, content-based-filtering

INTRODUCTION

On-line Social Networks (OSNs) are platforms that allow people to publish information about them and to connect to other users of the network through links. Now days, the popularity of OSNs is increasing significantly. Twitter, Facebook, LinkedIn have more than a hundred million active users. Today the most interactive medium to communicate with others is online social networks (OSN). This online social network is useful for spreading information, pictures and videos and generally staying in touch with people you wouldn't normally get to interact with all the time. Therefore in OSN there is chance of posting undesirable contents/message on particular public/private area, called user walls.in this paper we generally focus on text based messages. The existence of OSNs that include person- specific information creates both interesting opportunities and challenges. For example, data The aim of present work is thus to propose and through an experiment assess an automatic system, known as Filtered Wall (FW), able to filter undesirable messages from OSN user walls. We have a tendency to exploit Machine Learning (ML) text categorization techniques to mechanically assign with every short text message a group of classes supported its content [1]. Our focus during this work is on on-line identification of real-world event content. We have a tendency to determine every event and its associated Twitter messages victimization an internet clump technique that teams along locally similar tweets. We have a tendency to then work out revealing options for every cluster to assist confirm that clusters correspond to events. significantly, we have a tendency to style options to tell apart between real-world events and a special family of non-events, namely, Twitter-centric or trending topics that carry very little which means outside the Twitter system. These Twitter-centric activities usually share similar temporal distribution characteristics with real-world events

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RELATED WORK

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distribution over topics distinctly on both the author and one recipient of a message. Unlike the AT, the ART model takes into consideration both author and recipients distinctly, in addition to modeling the email content as a mixture of topics. The ART model is a Bayesian network that simultaneously models message content, as well as the directed social network in which the messages are sent

Semantic access control in online social networks

Online Social Networks (OSNs) have become a major type of online applications allowing information sharing among a large number of users, raising at the same time, however, new security and privacy concerns. The complex relations considered in such applications highlight the need for semantic organization of the contained knowledge and for semantic access control mechanisms.

In this context, Giunchiglia et al. [37] propose a Relation Based Access Control model (RelBAC), providing a formal model of permissions based on relationships among communities and resources. RelBAC can be used to model access control in terms of lightweight ontologies of users, objects, and permissions, allowing for automatically managing permissions. Similarly, the approach presented in [38] exploits relationships with the individuals and the community in order to determine the access restrictions to community resources. All this knowledge is represented in an ontology using OWL DL, while semantic rules are added on top of the ontology providing the sufficient expressivity and decidability to infer the indirect relationships.

Carminati et al. provide in [39] a much richer OWL ontology for modeling various aspects of online social networks, while also proposing authorization, administration,
and filtering policies that depend on trust relationships among various users and are modeled using OWL and SWRL. In particular, the authors suggest modeling the following five important aspects of OSNs using Semantic Web ontologies: personal information, relationships among users, resources, relationships between users and resources, and actions.

A more detailed approach is presented in [40], which proposes the Ontology-based Social Network Access Control (OSNAC) model, encompassing two ontologies; the Social Networking systems Ontology (SNO), capturing the information semantics of a social network, and the Access Control Ontology (ACO), which allows for expressing the SWRL access control rules on the relations among concepts in the SNO. Finally, it captures delegation of authority and empowers both users and the system to express fine-grained access control policies.

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METHODOLOGY

In this proposed methodology, the main goal is to make the text classification in sustained way to obtain the predicted results through the following major techniques. A. Text Mining Algorithm: In the first step, the comments are collected and forward to admin page. Document Pre- Processing: In this process, the given input document is processed for removing redundancies, inconsistencies, separate words, stemming and documents are prepared for next step, the stages performed are as follows: Tokenization - The given document is considered as a string and identifying single word in document. Removal of Stop Word - In this step the removal of usual words like a, an, but, and, of, the etc. is done. Stemming - A stem is a natural group of words with equal (or very similar) meaning. This method describes the base of particular word. Inflectional and derivational stemming are two types of method. One of the popular algorithms for stemming is porter's algorithm. e.g. if a document pertains word like resignation, resigned, resigns then it will be considered as resign after applying stemming method. B. Short Text Classification: A hierarchical two-level classification is advantageous to short text classification as per the suggestion. The first level of a classifier labels the message into neutral and non-neutral. In second level non neutral messages are estimated into one or more of the conceived categories. Filtering rule - A filtering rule is a tuple (auth, CreaSpec, ConSpec, action) 1. auth is the user who state the rule. 2. CreaSpec is the Creator specification. 3. ConSpec is a boolean expression. 4. action is the action performed by the system.

Filtering rules will be applied, when a user profile does not hold value for attributes submitted by a FR. This type of situation will be dealt with asking the owner to choose whether to block or notify the messages initiating from the profile which does not match with the wall owners FRs, due to missing of attributes. C. Blacklist: The main implementation of our paper is to execute the Blacklist Mechanism, which will keep away messages from undesired creators. BL are handled undeviating by the system. This will able to decide the users to be inserted in the blacklist. And it also decides the user preservation in the BL will get over. Set of rules are applied to improve the stiffness, such rules are called BL rules. By applying the BL rule, owner can identify which user should be blocked based on the relationship in OSN and the user's profile. The user may have bad opinion about the users can be banned for an uncertain time period. We have two information's based on bad attitude of user. Two principles are stated. First one is within a given time period user will be inserted in BL for numerous times, he /she must be worthy for staying in BL for another sometime. This principle will be applied to user who inserted in BL at least once. Relative Frequency is used to find out the system, who messages continue to fail the FR. Two measures can be calculated globally and locally, which will consider only the message in local and in global it will consider all the OSN users walls.

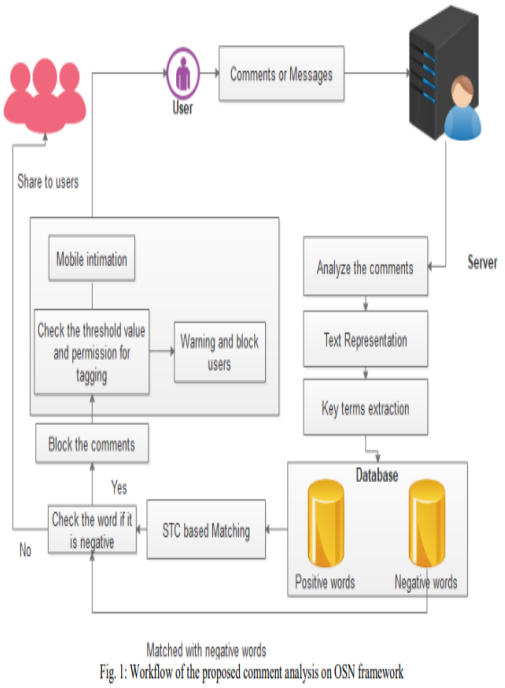

Fig. 1: Workflow of the proposed comment analysis on OSN framework

The major efforts in building a robust Short Text Classifier (STC) concentrate in the extraction and selection of a set characterizing and discriminating features. Here, a database of the categorized words is built and it is used to check the words if it has any indecent words. If the message consists of any vulgar words, then they will be sent to the Blacklists to filter out those words from the message. Finally, the message without the indecent words will be posted in the user's wall on the result of the content-based-filtering technique. A system automatically filters unwanted messages using the blacklists on the basis of both message content and the message creator relationships and characteristics.

Major difference includes, a different semantics for filtering rules to better fit the considered domain, to help the users Filtering Rules (FRs) specification, the extension of the set of features considered in the classification process

A. Framework Construction: A social networking service (also social networking site, SNS or social media) is an online platform that people use to build social networks or social relations with other people who share similar personal or career interests, activities, backgrounds or real-life connections. The variety and evolving range of stand-alone and built-in social networking services in the online space introduces a challenge of definition. Social network refers to interaction among people in which they create, share, and/or exchange information and ideas in virtual communities and networks. Design the GUI which is the type of user interface that allows users to interact with users through graphical icons and visual indicators. In this module we can create the interface for admin and user. User can login to the system and view the friend request. The user can share the images to friends. B. Post Comments: Social media is becoming an integral part of life online as social websites and applications proliferate. Most traditional online media include social components, such as comment fields for users. In business, social media is used to market products, promote brands, and connect to current customers and foster new business. In this module, we can comment in online social network. Comment in the form of text. The text may be unigram, bi-gram and multi grams. This module is used to get the input from social users. Comments may be various forms such as links or texts or short texts. Comments are read and send to server page. C. STC Implmentation: In this module, we design an automated system, called Filtered Wall (FW), able to filter unwanted messages from OSN user walls. The architecture in support of OSN services is a three-tier structure. The first layer commonly aims to provide the basic OSN functionalities (i.e., profile and relationship management). Additionally, some OSNs provide an additional layer allowing the support of external Social Network Applications (SNA). Finally, the supported SNA may require an additional layer for their needed graphical user interfaces (GUIs). The major efforts in building a robust short text classifier (STC) are concentrated in the extraction and selection of a set of characterizing and discriminant features. In order to specify and enforce these constraints, we make use of the text classification. From STC point of view, we approach the task by defining a hierarchical two-level strategy assuming that it is better to identify and eliminate "neutral" sentences, then classify "non-neutral" sentences by the class of interest instead of doing everything in one step. D. Filtered Rules Implementation: The filtering rules should allow users to state constraints on message creators. Thus, creators on which a filtering rule applies should be selected on the basis of several different criteria; one of the most relevant is by imposing conditions on user profile's attributes. In such a way it is, for instance, possible to define rules applying only to young creators, to creators with a given religious/ political view, or to creators that we believe are not expert in a given field (e.g. by posing constraints on the work attribute of user profile). This means filtering rules identifying messages according to constraints on their contents. And block the users who are post the negative comments more than five times and also send mobile intimation to users at the time offline. E. Filtered GUI: BL'S are directly managed by the system, which should be able to determine who the users are inserted in the BL and decide when the user retention in the BL is finished. To improve flexibility, this information is in the system by a set of rules; the rules on BL. Rules are generated by server for setting threshold values. Based on threshold values, we can block friends who are providing negative comments. Finally provide mobile intimation to users

CONCLUSION

Online social networks store and aggregate all the data generated by their users into central servers. These data are usually the property of service providers, and are only partially accessible by other individuals. This results in users having only a limited level of control over their personal data, as well as limited openness for the service as a whole. As a possible solution to overcome these limitations, DOSNs have been recently proposed. Examples include Diaspora [106], Peerson [107] and Safebook [108]. DOSNs implement OSN functionalities, but in a completely decentralised way. User-generated content remains on the personal devices of the users or is replicated on a limited number of additional nodes, with links to these nodes governed by openness and trust. For a more

complete discussion on DOSNs, we refer the reader to the work by Paul et al. [109].

In DOSNs, content exchange is directly managed between users' devices, and is usually performed through peer-to-peer networking, without the need for central servers. One of the main issues with DOSNs is data availability. Since content is maintained on users' devices, which could suffer from periodic disconnections from the network or from switch-offs, requests could fail, thus limiting the usability of the system. To improve data availability, replication schemes are usually adopted.

Several replication strategies have been proposed in the literature. For example, Han et al. [110] presented a social selection scheme that identifies hosts for replicas as the neighbours of a node potentially able to serve the highest number of other neighbours in the ego network. Similarly, Xia et al. [111] propose an algorithm for efficient replica allocation that selects the smallest set of neighbours of a node which serve the largest number of other neighbours, based on the topology of the network formed of social relationships existing between users. Although these solutions provide valid replication schemes from a technological point of view, they do not consider the trust level between users.

It is important to note that, in DOSNs, users would probably like to replicate their data on nodes that they trust, and they could be willing to help disseminate content coming primarily from the set of users they trust most, given that untrusted users could be sources of unwanted content such as spammers or bots. Based on these remarks, and on the idea that people have a limited number of social contacts close to them (i.e. a super support clique), Conti et al. [112] proposed a novel replication scheme for DOSNs based on the selection of a limited number of social contacts for each user to be used as hosts for information replicas. At each time, the scheme selects a maximum of two contacts for each ego network, based on using the contact frequency between the ego and these contacts to estimate trust. The scheme has been tested through simulation on a Facebook dataset containing information about social relationships, and about users' online sessions. The results indicate that the replication scheme reaches a minimum of 90% data availability for users with more than 40 friends. For users with fewer friends, the scheme is not able to provide data availability for all the other nodes in the network, but it provides high availability for the nodes inside the ego network of the users, many of which may be offline at the same time.

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