

Comment Analysis in Social Network Using Machine Learning Technique

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Abstract: Today's present day lifestyles are absolutely based on Internet. Now an afternoon's people can't consider lifestyles without Internet. From previous couple of years people share their views, thoughts, and statistics with every other the usage of social networking sites. Such interchanges may encompass numerous styles of substance inclusive of text, photo, audio and video statistics. One fundamental trouble in these days On-line Social Networks (OSNs) is to provide customers the capacity to manipulate the messages posted on their personal private area to keep away from that unwanted content material is displayed. Up to now OSNs offer little assist to this requirement. Hence Online Social Networks ought to be extremely at ease and have to defend the individual's privacy. The Online Social Network gives the security measures however they had been restrained. While Socializing the person can get admission to the profile of other members which might be concerned in social sites or even percentage information inclusive of snap shots, text, films and many others. One important difficulty in user wall is to provide customers the functionality to manipulate the messages posted on their personal personal space so that you can avoid unwanted content material to be displayed on their wall. To conquer this hassle, we endorse a machine permitting OSN users to have a right away control at the messages published on their walls. This is accomplished via a bendy rule-based totally machine, that permits customers to customize the filtering criteria to be remember-of-reality to their partitions, and a Machine Learning based totally soft classifier automatically labeling messages in content material-primarily based filtering. And also encompass the tagging primarily based request analysis in online social community with actual time intimation

Keywords: Machine learning, Rule based approach, Online social networks, Sentiment analysis, Blocked list

I. INTRODUCTION

In modern-day years, on-line Social Networks (OSNs) have attracted many masses of hundreds of clients global. Even even though Social Networks have perpetually been a primary part of everyday lifestyles, now that an increasing number of oldsters are related to the internet, their online counterparts are fun a increasingly important feature. OSNs have additionally grown to be a scorching issue in regions of research starting from sociology to laptop technological knowledge and mathematics. Except for allowing clients to create a community to symbolize their social ties, many OSNs facilitate uploading of multimedia content material cloth, quite a few strategies of communiqué and sharing many elements of ordinary life with friends. Humans can keep in contact with (bodily a long way off) associates, quite in reality percent content material fabric and studies and hold up to the moment within the remedy in their personal home or whilst on the glide. Social network systems provide an clean human computing device interface for net customers, making it easy to share unlimited-form statistics (same to pictures and movies) with friends anyplace and each time. Additionally, clients can revel in real-time and unfastened chats with others, post the ultra-modern reputation updates/verify-ins, and categorical evaluations approximately gift social sizzling spots. On the grounds that social networking's advent, we've great a few massively superb systems emerge (consisting of facebook, Twitter, and



Instagram). When surfing on such structures, most customers are blind to the platform's privateness problems; but in reality, users' social network privateness is primary. Some sensitive statistics equal to a non-public alternative, profile, and shared pics could be leaked to others who aren't granted entry rights, if the social media service dealer doesn't take pleasant precautions to guard entry control. It's simple that most people social community structures goal to preserve their consumers' privateness as hundreds as they will be able to. Nevertheless, benefits aside, gain threats to person privateness are greater often than not underestimated. For example, because of most people nature of many OSNs and the internet itself, content material can without problems be disclosed to masses broader visitors than the man or woman supposed. Users extra frequently than now not have drawback revoking or deleting knowledge and statistics a few clients would possibly additionally be published by way of the use of others without their consent. Confinement in OSNs is a complicated remember and isn't always at all times intuitive to clients, particularly whilst you keep in mind that it is in no way times much like how privacy works in actual-existence interactions. Ideally, clients need to be successful to exchange a few confinements for functionality, without their information turning into reachable beyond the scope they intend. For instance, a purchaser of self-assist OSN would really like to fulfill mother and father with the same clinical scenario however does now not need each person to understand approximately his disease. Even in an outstanding deal a good deal less extreme times, the price of confinement is maximum of the time underestimated. In this artwork, we highlight that the essence of the scenario is that gift mechanisms for defining access to pictures in OSNs, can't actually manage times in which the involved events have conflicting settings. First, the image uploaded is regarded the proprietor of the photograph and is granted complete rights, whereas the oldsters showing inside the photograph need to now not seemed co-owners and have to not granted any rights. On high of this famous coarse-grained procedure, OSN businesses positioned into impact extra coverage policies, a number of so that you can significantly complicate troubles. Moreover, any customers which can be tagged have an effect at the visibility of the image, because the image will possibly be viewable by using way of all their contacts (default privateers environment). Therefore, even when the customers tagged inside the photo have limited its visibility, if the uploaded has not constrained access the photograph will in all likelihood be publicly available, something which the remainder users isn't always going to even be conscious of. Generally, those events will also be characterized as cases of conflicts of hobby, the region they need of the content fabric cloth author is going in the direction of the choice of the depicted customers, or the privacy settings of purchaser override those of 1 different. Note that even though the access manipulate mechanisms may additionally want to variety at some point of OSNs, conflicts of hobby are an ordinary impediment, as they rise up from the content cloth material of the pics. The various varieties of social networks are proven in figure 1.



Fig 1: Social Networks

II. RELATED WORK

BiaoWang, et.al,...[1] investigated the trouble of dynamic rumor influence minimization with user experience. First, based totally on present works on information diffusion in social networks, we include the rumor popularity dynamics in the diffusion version. We examine present investigations on topic propagation dynamics and bursty topic patterns. Then we choose Chi-squared distribution to approximate the global rumor popularity Inspired with the aid of the novel energy version proposed by using Han et al., we then analyze the man or woman tendency towards the rumor and gift



the opportunity of a hit rumor propagation between a couple of nodes. Finally, inspired through the concept of the use of model, derive the cooperative succeeding chance of rumor propagation that integrates the global rumor recognition with individual tendency. After that, we introduce the idea of user experience software feature and analyze the impact of blocking time of nodes to the rumor propagation manner. We then adopt the survival idea to give an explanation for the chance of nodes getting activated, and endorse both grasping and dynamic algorithms based totally on most chance principle. We propose a rumor propagation model taking into consideration the subsequent three elements: First, the global popularity of the rumor over the whole social network, i.e., the overall topic dynamics. Second, the attraction dynamics of the rumor to a ability spreader, i.e., the individual tendency to forward the rumor to its friends. Third, the acceptance chance of the rumor recipients. In this model, inspired by using the use of model, we combine all three elements collectively to recommend a cooperative rumor propagation opportunity. In our rumor blocking off techniques, we bear in mind the have an effect on of blocking time to user revel in in actual global social networks.

De-Nian Yang, et.al,...[2] creating a grand concept for the social networking provider carriers to support active friending. To help lively friending, the key problem is on the layout of the algorithms that choose the advice applicants. An easy scheme is to offer recommendations with the aid of unveiling the shortest route between the initiator and the target in the social community, i.e., recommending one candidate at each step alongside the direction. As such, the initiator cans steadily method the target by acquainting the individuals at the course. However, this shortest-path advice method may additionally fail as quickly as a middle-character does now not accept the friending invitation (due to the fact only one candidate is blanketed in the advice listing for every step). To cope with this trouble, its miles suitable to suggest more than one candidates at each step because the initiator is much more likely to proportion more common buddies with the goal and thereby more likely to get widely wide-spread via the goal. Especially, by way of broadcasting the friending invites to all associates of the initiator's pals, the possibility to attain the friending target and get well-known can be effectively maximized as huge wide variety of paths is flooded with invitations to approach the goal. Nevertheless, friending invitations are abused right here due to the fact the above unidirectional broadcast is aimless and liable to involve many unnecessary friends. Moreover, the initiator may not want to address a huge variety of tedious invites. In this paper, we examine a brand new optimization hassle, referred to as Acceptance Probability Maximization (APM), for lively friending in on line social networks. The provider providers, who keen to explore new monetary equipment for sales increase, may additionally recall charging the users from lively friending service.

Andrew McCallum, et.al,...[3] provided the Author-Recipient-Topic (ART) version, a directed graphical version of phrases in a message generated given their writer and a hard and fast of recipients. The version is similar to the Author-Topic (AT) version, however with the essential enhancement that it situations the consistent with-message subject matter distribution collectively on each the author and person recipients, as opposed to on character authors. Thus the invention of topics within the ART model is stimulated via the social shape in which messages are dispatched and received. Each topic includes a multinomial distribution over words. Each author-recipient pair has a distribution over topics. We can also easily calculate marginal distributions over subjects conditioned entirely on a creator, or solely on a recipient, which will locate the topics on which all and sundry is maximum probable to ship or acquire. Most importantly, we can also correctly use these man or woman conditioned subject matter distributions to measure similarity among people, and for that reason find out humans' roles with the aid of clustering using this similarity. For example, people who receive messages containing requests for photocopying, travel bookings, and meeting room preparations can all be said to have the role "administrative assistant," and can be found as such due to the fact inside the ART version they will all have these topics with excessive chance of their receiving distribution. Note that we will find out that human beings have comparable roles although within the graph they are connected to very exceptional units of people. Thus, we advocate an Author-Recipient-Topic (ART) model for message statistics. The ART version captures subjects and the directed social community of senders and recipients via conditioning the multinomial distribution over subjects relatively on both the writer and one recipient of a message. Unlike the AT, the ART version takes into consideration both author and recipients highly, similarly to modeling the email content material as a



aggregate of subjects. The ART model is a Bayesian network that concurrently models message content, as well as the directed social community in which the messages are dispatched.

Luoyi Fu, et.al,...[4] bridge the theoretical analysis of essential scaling laws of wi-fi networks with the insights already won through practical protocol development. By doing so, we provide a theoretical foundation to the design of shrewd scheduling and routing schemes that exploit social family members, analytically demonstrating the benefits of such schemes in phrases of throughput ability. In precise, to address the aforementioned predominant functions of such big scale networks, we install the rank based totally model, in which the opportunity of befriending a selected node is inversely proportional to α th strength of the number of closer nodes. We pick the rank-based model over the gap-based totally one because the latter one underestimates the friendship probability of the distant nodes within the low-density place, whilst the geographical distribution of users is inhomogeneous in common occurrence. In contrast, the rank-based model states that the friendship probability relies upon on each the geographic distance and node density. It is well worth noting that each the rank-based totally model and the strength law node levels are heavy-tailed distributions. Heavy-tailed distributions are beneficial modeling tools in realistic settings, however are often difficult for analysis because they imply a brilliant degree of versions inside the machine, i.e., some of the supply-vacation spot pairs are close acquaintances at the same time as some may be very a ways away. In addition, a few nodes have extremely large quantity of fans (together with celebrities) even as a few others can also handiest have a few. However, our results show that in spite of the excellent heterogeneities in the network, a uniform most beneficial performance can be guaranteed. Comparing with traditional unicast networks, the site visitors sample in our version is appreciably specific because the destinations are decided on according to the rank-based model, so that you can result in a positive diploma of visitor's locality. Intuitively, as parameter α will increase, sources will be much more likely to befriend a node located in nearer proximity, and therefore less distance or hops are had to be included in the packet delivery manner. This amount to a smaller interference per site visitors float, and in phrases implies a bigger degree of transmission concurrency may be achieved. As a result, the unicast capability is extended. However, the non-uniformity of the site visitors sample will cause considerable problem in analysis.

Andrea Montanari, et.al,...[5] represented the social network by using a graph wherein each node represents an agent inside the gadget. Each agent or player has to make a preference between two alternatives. The payoff of each of the two alternatives for the agent increases with the variety of friends who are adopting the same preference. The above version captures situations in which there is an incentive for individuals to make the same picks as their immediately buddies or friends. This might also appear while making a decision among two opportunity operating systems (e.g., Windows versus Linux), selecting mobile telephone carriers (AT&T versus Verizon), or maybe political events (Republican versus Democratic). We use a totally easy dynamics for the evolution of play. Agents revise their strategies asynchronously. Each time they pick out, with probability near 1, the approach with the first-rate payoff, given the current conduct in their pals. Such noisy satisfactory-reaction dynamics were studied notably as a easy version for the emergence of technologies and social norms. The essential bring about this line of labor can be summarized as follows: The aggregate of random experimentation (noise) and the myopic attempts of gamers to boom their application (first-class response) drives the system toward a specific equilibrium in which all gamers take the identical action. The analysis additionally gives a easy circumstance (referred to as threat dominance) that determines whether or not an innovation delivered inside the community will ultimately come to be significant. The gift paper characterizes the fee of convergence for such dynamics in phrases of specific graph-theoretic portions. Suppose a superior (hazard-dominant) generation is brought as a brand new opportunity. Our characterization is expressed in terms of quantities that we name tilted reduce width and tilted reduce of the graph. We refer the reader to the following sections for specific definition of these portions. Roughly speak me, the 2 quantities are duals of every other: The former characterization is derived via calculating the maximum in all likelihood course to the equilibrium and implies an higher bound on the convergence time; the latter corresponds to a bottleneck within the space of configurations and provides a lower certain.



III. EXISTING METHODOLOGIES

In content material-based wholly filtering every consumer is proposal to function independently. As a final result, content material-specially established filtering procedure selects info items established wholly on the correlation among the many content material of the objects and the person choices in position of a collaborative filtering gadget that chooses objects primarily established at the correlation amongst human beings with equivalent choices. At the same time email grew to be the precise domain of early paintings on files filtering, subsequent papers have addressed diverse domains along with newswire articles, internet “knowledge” articles, and broader community sources. Documents processed in content-particularly headquartered filtering are more generally than now not textual in nature and this makes content material material-notably headquartered filtering close text type. The undertaking of filtering is also modeled; the truth is, as a case of single label, binary style, partitioning incoming records into relevant and non-valuable lessons. More complicated filtering systems include multi-label textual content material categorization robotically labeling messages into partial thematic lessons. Content-particularly situated filtering is in targeted centered thoroughly on the usage of the ML paradigm in line with which a classifier is mostly precipitated via gaining capabilities of from a hard and fast of pre-categorized examples. A top notch sort of related work has lately considered which differ for the adopted function extraction systems, mannequin studying, and assortment of samples. The operate extraction process maps textual content proper into a compact illustration of its content fabric and is uniformly applied to training and generalization levels. A couple of experiments show that Bag of phrases (BoW) tactics yield correct performance and prevail in well-known over bigger sophisticated textual content representation that may have superior semantics but slash statistical best.

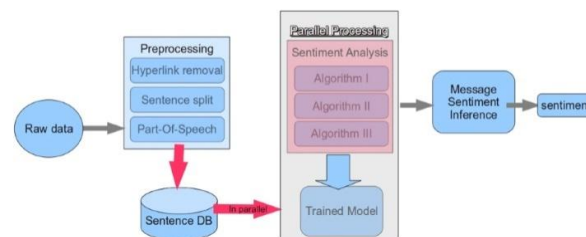


Fig 2: Existing work

IV. PROPOSED WORK

On line Social Networks (OSNs) are this present day one of the most popular interactive medium to talk percentage and disseminate a giant quantity of human existence records. One main concern in this present day online Social Networks (OSNs) is to provide users the capacity to control the messages posted on their possess personal area to keep far away from that undesirable content material fabric is displayed. Up to now OSNs offer little support to this requirement. To fill the space, on this paper, we advise a approach enabling OSN users to have an instantaneous manipulate on the messages released on their partitions. This is accomplished via a flexible rule-situated completely procedure, that makes it possible for users to customize the filtering standards to be carried out to their partitions, and a computer finding out situated completely gentle classifier robotically labeling messages in aid of content material material-based utterly filtering. Machine getting to know (ML) is used as textual content categorization procedures to generally assign each brief textual content message with in a constant of lessons situated completely on its content material. The most important efforts in building a sturdy short text Classifier (STC) pay attention within the extraction and decision of a constant characterizing and discriminating features. Right here, a database of the categorized phrases is developed and it's used to examine the phrases if it has any indecent words. If the message entails any vulgar phrases, then they are going to be dispatched to the Blacklists to filter those words from the message. Ultimately, the message without the indecent words will also be released inside the consumer's wall on the influence of the content material fabric-headquartered utterly-filtering method. A device robotically filters undesirable messages using the blacklists on the



basis of each and every message content material and the message creator relationships and traits. Main change embody , a precise semantics for filtering insurance policies to higher in shape the regarded area, to guide the purchasers Filtering principles(FRs) specification, the extension of the set of aspects considered within the category process. The proposed framework is shown in fig 4.

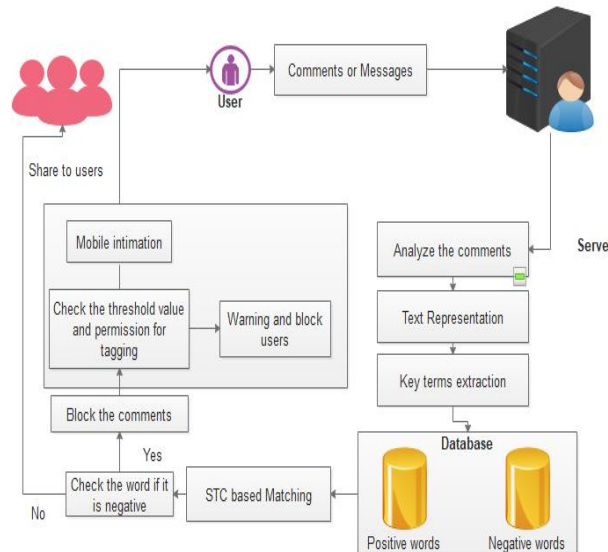


Fig 3: Proposed work

A. Social Network Application

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 uni-gram, 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. In the first step, the comments are collected and forward to admin page.

C. 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 i.e. the given document string is divided into one unit or token

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 consider as resign after applying stemming method.

D. STC Implementation

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.

E. 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. 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 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.

F. 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. 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 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 atleast 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.

V. EXPERIMENTAL RESULTS

We can implemented this framework as GUI format in .NET framework to analyze the unwanted words and also block from sharing the data in OSN interface. We can train positive and negative keywords in server side. Sample datasets as shown in fig 4 and 5.

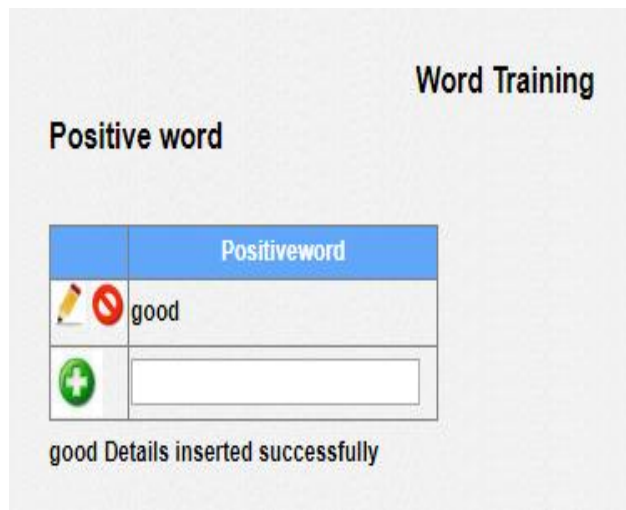


Fig 4: Positive word training



Fig 5: Negative word training



After that the training the word, server can perform classification steps to eliminate the unwanted words. That can be shown in fig 6.



Fig 6: Block the Keywords

Then intimate the users about blocked keywords and is shown in fig 7.

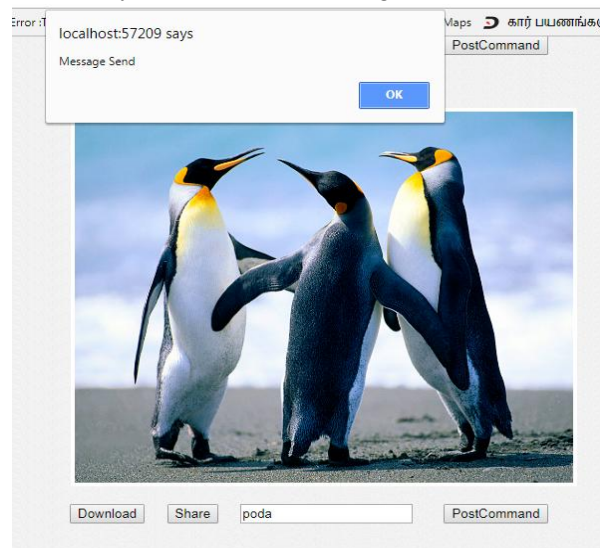


Fig 7: Mobile Intimation

VI. CONCLUSION

In this paper, we have offered a procedure to filter undesired messages from OSN walls. The approach exploits a ML gentle classifier to implement customizable content dependent FRS. The main efforts in constructing a strong brief textual content classifier are centered in the extraction and choice of a suite of characterizing and discriminant aspects. Additionally, the flexibility of the system in phrases of filtering choices is greater through the management of BLs. This work is step one of a much broader undertaking. The early encouraging results we now have bought on the classification system prompt us to proceed with other work so as to aim to make stronger the first-rate of classification. On this process makes use of the ML gentle classifier to remove the unwanted messages. BL is used to enhance the pliability of procedure for filtering. We can be design the method so we can extra refined process to decide when a person must be inserted into the BL. Apart from classification amenities, the procedure provides a powerful rule layer exploiting a bendy language to specify Filtering rules (FRs), by which users can state what contents, must not be displayed on their partitions. FRs can support a kind of one-of-a-kind filtering standards that can be combined and



customized in line with the consumer wants. More precisely, FRs takes advantage of person profiles, user relationships as good as the output of the ML categorization approach to state the filtering standards to be enforced. Furthermore, the process presents the support for consumer-defined Blacklists (BLs), that's, lists of customers which are temporarily avoided to post any kind of messages on a consumer wall.

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