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Automatic Gossip Detection in Online Social Networks

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Abstract: ***The number of people using social networking sites such as Twitter, face book, instagram is exponentially increasing every day. These destinations not just go about as a stage for remaining associated with companions and trading conclusions and belief systems, yet additionally help to share and spread data. During many such events, social media has been used to spread gossip and cause havoc and panic among the people, thus worsening the situation. In this project, we try to automatically detect the gossip spreading on Twitter and identify its source. Using some of the gossip posted during the London Riots in 2011 and some non- gossip, we trained a classifier. Our classifier correctly classifies the tweets with high accuracy. We show that, in gossip detection, the information propagated by the user becomes more important than the identity of the user by showing that tweet-based features play a much higher and significant role than user-based features. We propose an algorithm to find the origin of the gossip i.e. obtain the account information of the user who first started spreading gossip on social media.***

Keywords: Automatic Gossip Detection In Online Social Networks, Gossip Detection In Online, Gossip Detector, Online Gossip Detector. Automatic Gossip Detector

I. INTRODUCTION

The ease of access to the internet is increasing exponentially and with it, the access to social media. Today, Twitter, being one of the major social networks is being used by its users to share micro-bits of information called Tweets that may contain their opinions, quotes, photos, and article links among many others. Its real time nature has helped it to evolve in to one of the world's leading source of social discovery and newsworthy events. Its availability on web as well as on mobile devices enables users to post tweets at any time and place. In emergency or any urgent situations people tend to use social networking sites such as Twitter to spread information. People also use such sites to state their views on trending topics. Starting at July 2014, Twitter has in excess of 500 million clients, out of which in excess of 271 million are dynamic clients. The downside of such rapid diffusion of information is the fact that false information is also spread at an alarming rate. This has led to chaotic situations and distress in the past. For example during the London riots in 2011 Twitter was used as a medium to spread rumours. Rioters spread rumours about certain incidents like London eye being set on fire, police beating up a 16 year old, rioters breaking in to McDonalds, rioters attacking London Zoo and the animals being freed, attacking the children's hospital at Birmingham and army being deployed in bank which other users further tweeted, leading to the spread of these rumours.

This led to panic in the city and the government had to take immediate steps to halt it. Therefore, it is necessary to segregate correct information from the incorrect ones and to track down people responsible for spreading false rumours through Twitter. In this paper, we describe the building of a classifier which classifies tweets based on whether it is a rumour or not, and if found to be a rumour, finds the origin i.e. the user account/s responsible for such activities. Malicious users spreading rumours on Twitter can be tracked down and the further spreading of these tweets can be stopped to contain the situation. In this paper, we show that in crisis situations, what is being said becomes more important and significant than who is saying it. To the best of our knowledge, this is the first research undertaken to detect rumoured tweets and to find its origin, simultaneously.

II. LITERATURE REVIEW

A. Dr. Dinesh B. Vaghela1 , Divya M. Patel

Rumor Detection with Twitter and News Channel Data Using Sentiment Analysis and Classification

Nowadays peoples are going towards social media increasingly to fetch the information and to share their opinion on social media. As there is rapid diffusion of information on social media, the information posted on social media spread so fast and easy. This information posted on social media not always right or not truthful to make sense. An advantage of social media is that all the people can share information and also gives their opinions on that platform. The drawback of such rapid diffusion of information is that false information are also spread. As the rumors are spreading on Twitter and other social media so fast and easier. We need to provide some solutions to detect such rumors. In this paper, our detection approach is based on the classification. Our detection

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approach is divided into three parts: Preprocessing, Sentiment Analysis and Classification. Also we are comparing different supervised learning techniques/methods for getting better and accurate detection of rumors. We are using one more external module i.e. news websites verification and comparing sentiment score of our proposed method and sentiment score of this external module.

B. Sakshi Yadav, Anuradha Purohit

Rumor Detection System for Twitter (A Micro-Blogging Site)

Micro-blog provides a platform for the users to transfer their thoughts and information in limited words more expressively. Its concise and easy to access nature makes it popular among every age group. Inspite, of all its pros and popularity, some people use it to achieve their bad motives i.e. to misguide people and create violence. To overcome this problem a system is required that will help to detect fake tweets in a limited amount of time. In this paper, a feature based approach for rumor detection has beenproposed. The proposed approach utilizes 9 features which shows author as well as readers reaction to identify rumor tweets which may differ for different users in different situations. For experimentation synthetic data and from Pheme has been utilize. A comparative study of the approach for the datasets has been done on the basis of evaluation parameters Recall, Precision and fmeasure. Satisfactory results have been obtained for Pheme data with less number of features as compare to synthetic dataset.

C. Sardar Hamidian and Mona Diab

Rumor Detection and Classification for Twitter Data

With the pervasiveness of online media data as ∂ source of information, verifying the validity of this information is becoming even more important yet quite challenging. Rumors spread a large quantity of misinformation on microblogs. In this study we address two common issues within the context of microblog social media. First, we detect rumors as a type of misinformation propagation, and next, we go beyond detection to perform the task of rumor classification (RDC). We explore the problem using a standard data set. We devise novel features and study their impact on the task. We experiment with various levels of preprocessing as a precursor to the classification as well as grouping of features. We achieve an F-Measure of over 0.82 in the RDC task in a mixed rumors data set and 84% in a single rumor data set using a two step classification approach.

III. PROPOSED SYSTEM

In our proposed approach the tweets with high precision. We show that, in gossip recognition, the data spread by the client turns out to be a higher priority than the personality of the client by indicating that tweet-based highlights play an a lot higher and huge job than client based highlights. We propose a calculation to discover the birthplace of the supposed tweets for example get the record data of the client who initially began spreading bits of gossip on Twitter. In this framework profoundly to identify Gossips and square Gossip account.

IV. RELATED WORK

To detect rumours from social media, first we need to study psychology of rumour. Then based on features and characteristics of rumour, we can make effective system that detects rumour. Here, in this part we summarize psychology of rumour in brief, general architecture of rumour classification system and introduction to existing work done to solve this problem.

V. DEFINITION: RUMOUR

Oxford English Dictionary defines a rumour as “a currently circulating story or report of uncertain or doubtful truth”. Merriam Webster Dictionary defines it as “a statement or current report without known authority for its truth”. So, basically rumour is a circulating story or message whose truth value is unverified at the time of posting. This unverified information may turn out to be true, or partly or entirely false; alternatively, it may also remain unresolved.

VI. TYPES OF RUMOUR

Many different factors are available for classifying rumours by types as based on its veracity value (true, false, or unverified), based on credibility (low or high). Knapp et al. introduced taxonomy of three types of rumours: “pipe-dream” rumours: i.e., rumours that lead to wishful thinking; “bogy” rumours: i.e., those that increase anxiety or fear; and “wedge-driving” rumours: i.e., those that generate hatred. With the perspective of rumour classification system, rumour can also be classified as a priori rumour: It is a long standing rumour that is discussed for long period of time. New emerging rumour:

Rumours that emerged during breaking news event. This rumour are the one that not seen before.

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Gorden et al. analysed psychology of rumours. They gave a basic rule of rumour as rumour is multiplicative of importance and ambiguity. If either of these two is absent then it is not rumour. Ambiguity alone does not sustain rumour nor does importance. Rumour is set in motion and continues to travel in homogeneous social medium by virtue of the strong interest of individuals involved in transmission. Authors found that the number of details retained declines most sharply at the beginning of a series of reproductions. The number continues to decline, more slowly, in each successive version.

Zubiaga et al. shows that rumours that proven to be true tends to resolve faster than false rumour. Their study revealed the importance of official announcement by a reputable person in society. The prevalent tendency of users is to support every unverified rumour. They defined follow ratio as logarithmically ratio of number of followers over number of followings. Their analysis shows that users with high follow ratios are more likely to: support any rumour, irrespective of its truth value; be certain about their statements and attach evidence to their tweets by quoting an external source. On the other hand, users with low follow ratios are more likely to: deny rumours, irrespective of their actual truth value; be rather uncertain about their statements and either provide no evidence in their tweets, or provide evidence on the basis of their own experience, opinions or observations. They also considered other factors to distinguish between users, such as user age, whether or not they are verified users, or the number of times they tweet, but found no significant differences.

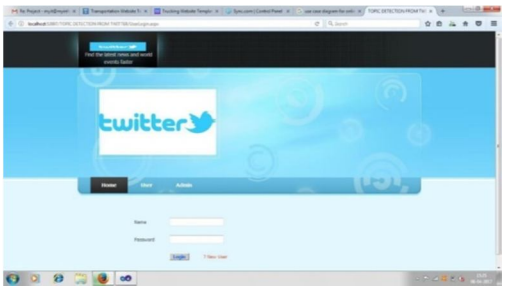
A. Experiment

Today, Twitter, being one of the major social networks is being used by its users to share micro-bits of information called Tweets that may contain their opinions, quotes, photos, and article links among many others. Its real time nature has helped it to evolve in to one of the world's leading source of social discovery and newsworthy events. Its availability on web as well as on mobile devices enables users to post tweets at any time and place. In emergency or any urgent situations people tend to use social networking sites such as Twitter to spread information.

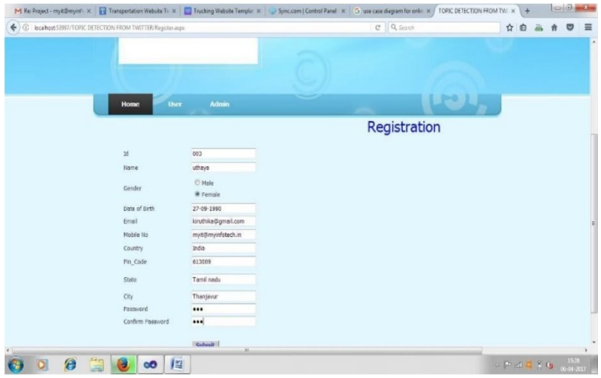
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VII. SCREEN LAYOUT

A. Home Page



B. Registration

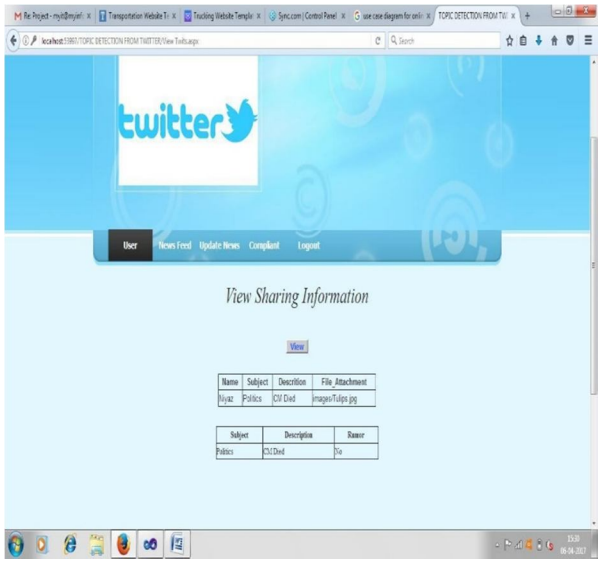


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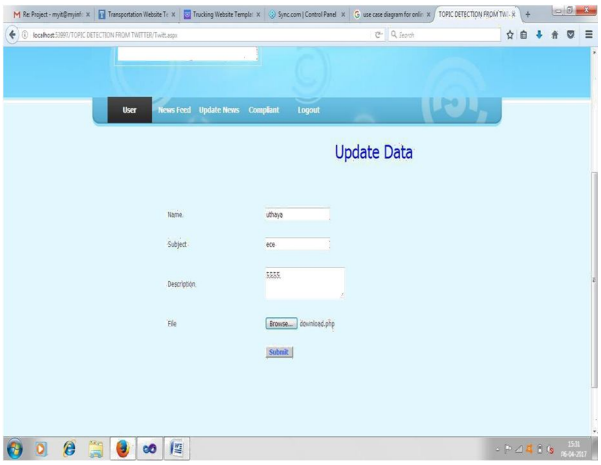
C. LOGIN



D. View Information

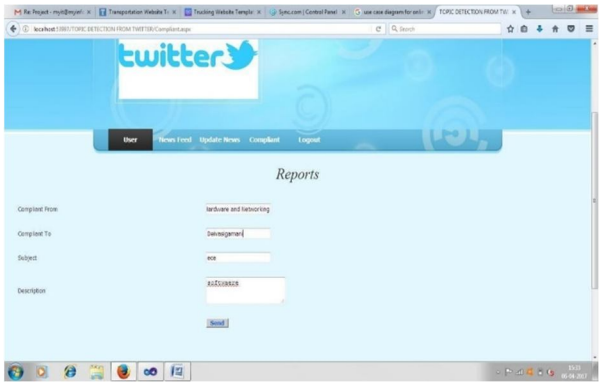


E. Update Twit

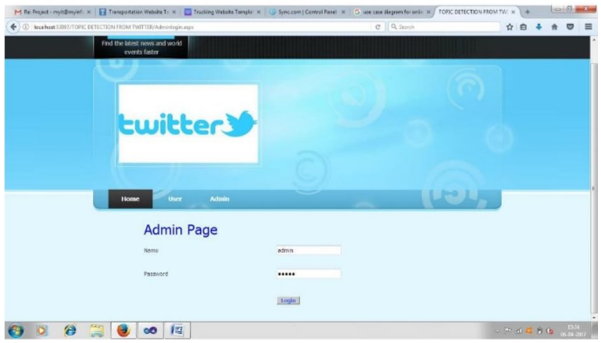


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F. Complaint



G. Admin



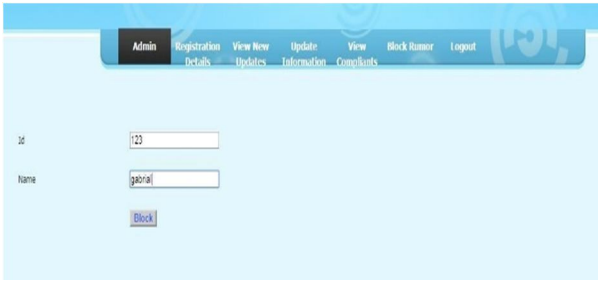
H. View Updates



I. View Complaints



J. Block Id



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VIII. CONCLUSION

The huge impact social media such as Twitter have on today's day-to-day activities and the rapid speed with which the tweets propagate make it critical to provide tools to automatically detect the spread of gossiped tweets. We identified the features necessary to automatically detect gossips and block the gossip account from twitter account. We proposed an algorithm to find the origin of the tweets. Once the account information of the users who first posted the tweets containing the gossips is obtained, they can help better understand the role of user-based features in the detection of gossiped tweets. Finally the project was successfully completed.

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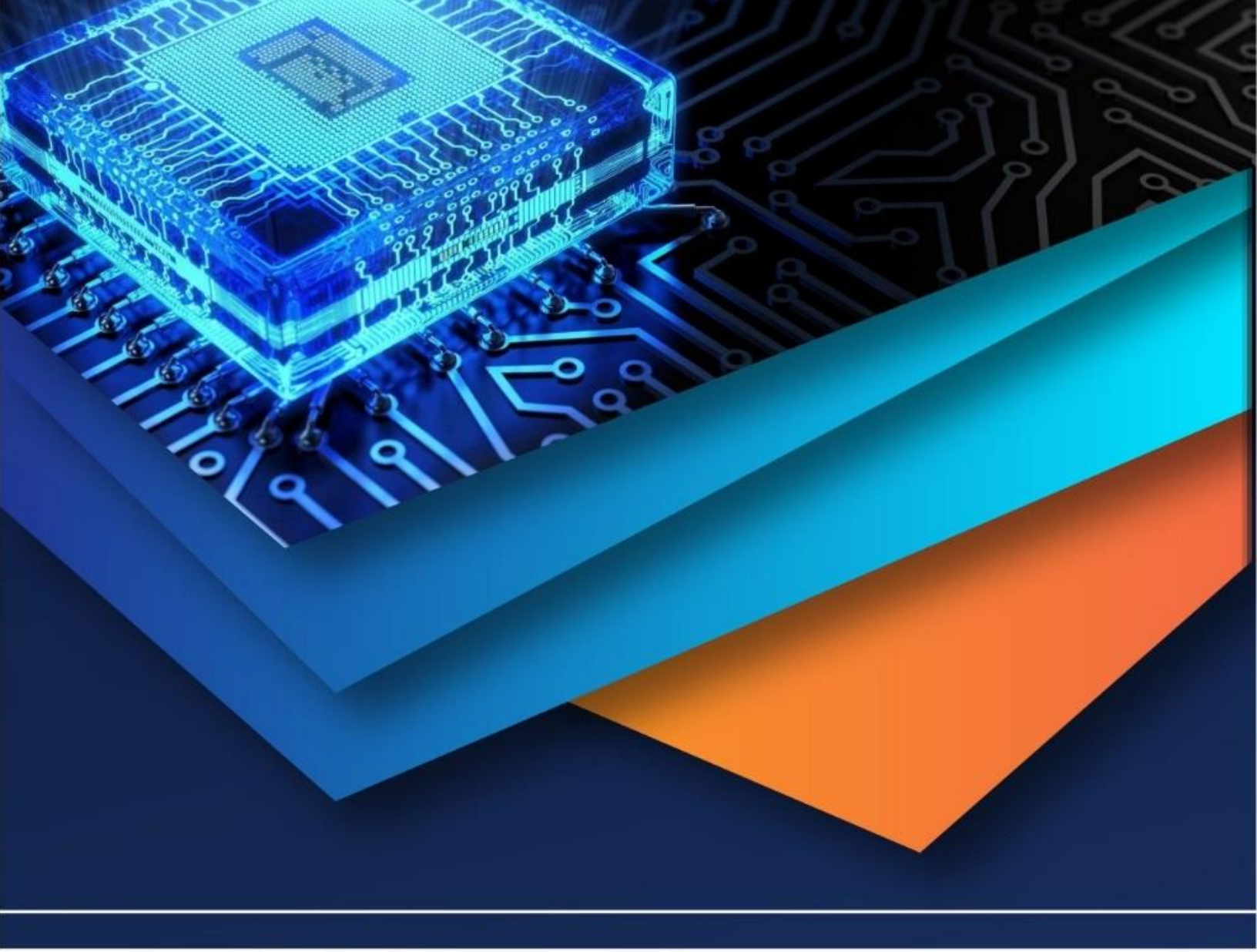
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