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Evaluating Twitter Credibility

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Abstract
Twitter is an American blogging site at micro level and social networking service on which people on the user side post and communicate with pieces of information known as "Tweets". Ever since Internet usage increased, fake news has also evolved. Fake news can be defined as a news that is false or unreal and that is diffused intentionally or unintentionally. For each Tweet, Credibility can be examined based on two features. The consistency of the information contained in the tweet and its URL in mentoring an event and the number of times the tweet has been retweeted. Credibility is used to detect false information or rumour. In this paper we have proposed the framework to find the credibility of tweets using scores or points given to both twitter user and the tweet.

Keywords: *Twitter, Credibility, Tweetscore, Userscore*

1. Introduction

The growth of the internet has resulted in information spread becoming more effortless, meaning that users can access information from across the globe using PCs and smartphones. Nowadays social networks are being a great source of information for many people since they have taken the place of traditional media like newspapers, magazines and television as a source for gaining information about the happenings through World Wide Web. As these networks provide platform to share information and express among human community. These information which are spreaded over a vast area and in quick period may lead to the going of hoax information among the users on platform such as Facebook, YouTube, Twitter etc.

Twitter is one such place where from news starting from stock market discussions to product reviews to criticism of public officials happen. Twitter is a huge mine of public opinion. However, most of the Twitter users or people on such platforms trust and acknowledge the information that is shared on the platform by others without the knowledge of knowing till what extend is it credible. Due to the nature of Internet, a lot information generated is credible.

Information credibility is difficult to identify because if two reasons

a) overabundance of information over the internet space
b) lack of certified official announcements for verifying factuality

Twitter is a real-time social network with over 285 million monthly active users and over 500 million tweets are shared daily. Twitter allows people to locate what is going on in the world right now, to share information and to communicate with others irrespective of their locations and whatever they are doing at any time interval, Eighty percent of the total tweets are currently accessed from a mobile site, and in no case it sees a fall down 83% of vocation would endorse Twitter to other small or medium sized businesses. Therefore, the power that Twitter has to reach the customers and increase awareness for business is massive.

People following hashtags like likely to believe fake information as large amount of information of a single topic are shared through hashtags. This information can be either true or false A hashtag is a way of getting into a capacious conversation. A hashtag can be any word or phrase with no space in between, that cannot include punctuation and should always start with the # symbol. This word or phrase can be used to communicate with others. If we search

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this hashtag we find tweeters all over the world tweeting about that subject that was mentioned in the hashtag. It is a very powerful tool .The option RT stands for 'retweet'. A retweet is done when we share someone else tweet with our followers without even getting to know if the tweet is real or not .Hence it is very important to find the credibility of tweets in case of retweeting We can directly retweet the tweet, or we can add some of our own comments to the RT before we could press send.

Twitter enables us perception into a huge world that we wouldn't otherwise be able to ingress. We can communicate with others across the globe. We can reach so many people about our business. It is such a transparent medium that allows a very easy means of communication.

News that is available on the Internet influences people and imbibes people with great power. This power which is incurred makes people misuse their ability. People share information and news unaware of its authenticity. To fulfill their intentions people share information that is not true which might have an influence on the human community that can be either constructive or destructive. Hence segregating the news into real or unreal is very important .In a recent study, it was found that people in their teens tend to have shared quietly a large amount of hoax Tweets. Therefore in the last 20 years great number of researches were carried out to find the best method to find if a tweet is authentic or not.

As the whole world is fearing from the present situation, the Corona Virus(COVID-19) which has been called as the world war-3 and the whole world is ordered to be in there homes safely and no to come out at any cost and complete lockdown to the world as the situation is not under control.

As there are so many tweets on the twitter tweeted per day on the current situation which are very trusted by the people because of the fear of the people where most of the tweets are difficult to detect whether they are true or not. A month ago there was a tweet posted saying that for the students assignments, any work related to the syllabus, online classes should not be given by the colleges or schools, where most of the students believed in the information but which was a false information. In this paper we have discussed the difficulties that people are facing because of the spreading of unreal news. We have tried to find the methods to find out if a piece of information that is shared through is fake or real. The effect of this method is tried to be shown in the paper. An Algorithm is proposed in the given paper to evaluate the credibility of Tweets using terms called tweet score and user score .By which we get can examine if a tweet has to be believed or not.

2. Related Work

As the usage of internet is growing day by day media's like Facebook, Instagram, Twitter, etc do their jobs as spreading news and sharing around the world currently going on. Twitter is one of the social platforms where people are allowed to share the information and their opinions based on the information among others. Among this information some may be true and some may be false which are shared all over the world. Twitter places great reliance on open-source software. The Twitter Web Interfaces uses the Ruby on rails framework. Twitter has been used for a variety of purposes in many industries and scenarios. For example, "Twitter Revolutions", which includes the protests over the 2009 Moldavan election and many more protests. Society believes in what the information that has been shared. To detect the credible tweets shared among the world which are fake or false tweets many methods used to detect them. As in 2015, Latent Dirichlet Allocation (LDA) methodology used where they used the semantic orientation dictionary and were implemented based on the opinion and topic classification, it was succeeded by imbalanced data more than three times [8]. Methods like Petri Net Model where the tweets are ranked according to the tweet credibility based on tweet with URL and tweets without URL, this method worked out very well and had to outperform with the SVM method[3]. Based on the tweet features frontend and the backend used on the method CredFinder System, this was achieved with a very good response time but had to be tested by more users on different contexts and contents[2]. Twitter is banned in some countries like Iran, China and North Korea, and has been intermittently blocked in numerous countries including Egypt, Iraq, Turkey on different bases. Tweet credibility detected by features ranking on tweets and ranking entire feature set for each dataset based on the SVM algorithm, it can train and test on datasets on different time periods. In 2018, method called Text mining where evaluated event credibility, events were extracted using Credbank dataset. Based on influence score on Numerical data mining and trend score and tweet score on textual data mining which have highest influence were declared as the top influencers[5].

In 2019, the spreading of fake news started in a huge manner and society believed in these news as there is no point checking and believing and many researchers identified many methods to detect the news true or false. Fear inevitably leads to panic, speculation. And the spread of misinformation- and there's a lot of fear in the world right now.Fear of Corona where the most of the information are fake as the whole world needs to be informed with right information so people are safe enough and go in a right way. Based on the users and the tweets that they tweet is false or not. From the past 15 years researchers have tried their best to evaluate the credibility of tweets which is based on many methods, one of that was based on user score and tweet score.

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3. Problem Definition

In this paper we have tried to throw light on the negative impact of the information on the community that is shared through Twitter which is fake or unreal. Hence we have tried ways to find the credibility of news that is shared through Twitter.

4. Methodology

Fake news in most cases has affected the community in negative ways. The society would have to face the consequences if it trusted a piece of information that is not real. Not only should the fake news to be examined but also it has to be removed from the twitter. The human community is dependent on social networking sites such as Instagram, Twitter or Facebook.

In the above mentioned context we have tried a method to evaluate a piece of information that is seen on the Twitter is credible or not. In the methodology proposed in the presented paper, we have tried to calculate tweet score of the tweet and the user score of the user who is tweeting. Based on the computed Tweet score and The user score, we can find out that the contents of the Tweet is real or not.

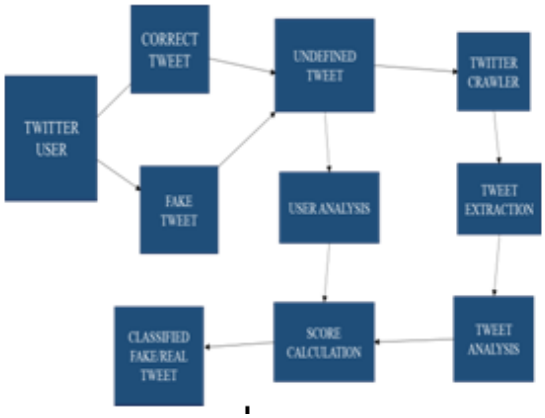

Figure 1: Proposed Framework

Proposed Algorithm

Step 1: In the initial step, basically we have considered two concepts that is tweet score and user score which has to be set up to zero

Tweet score: Tweet Score that defines how much the sweet can be trusted. Every tweet posted is verified if it is real or not and thus tweet score is applied

User score: User Score defines how trust worthy the user is about the information he is posting out on such platforms. Thus it can be said that if user score is above average his tweets are mostly true

Step 2: In the current step both the text message and respective user information is extracted. Text message is nothing but tweet which has the information on particular subject which we need to make sure whether the following is real or not. User information has twitter ID which includes location of the user too.

Step 3: In the current step both the user information and tweet message is checked together where it results the outcomes of the facts about the type of tweets posted by respective user are trust worthy or not.

Step 4: In the current step we need to figure out user name and tweet score. To figure out the both, we need to examine the connection of the message. To examine to connections of the information we are helped by the authentic sources. If the results comes out as information is true than we are incrementing the user score, if information is false we decrementing the user score and if we find that these tweets does not effect the society than we will keep the scores as it is. Respective tweet us attached with tweet score and user score so that it helps people reacting to the tweet as trust worthy tweet or not. Also further decision about following user can be made whether to trust him for further tweets or not.

5. System Requirements

Python (Spyder): Spyder is a open source cross-platform integrated development environment for scientific programming in the Python language. Spyder integrates with a number of prominent packages in the scientific Python stack, including Numpy,Scipy,Matplotlib,pandas,Ipython,SymPy and Cython, as well as other open source software.

Igragh: Igraph is a library collection for manipulating graphs and examining networks. It is usually written in C but also exists in Python and R packages. The software can be used for research in network science and fields which are related to it.

MATLAB: MATLAB is a multi-paradigm numerical computing environment and proprietary programming language developed by MathWorks. MATLAB allows matrix multiplications, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other programming languages.

6. Pseudo code

```
TextMessage=MessageExtract(Tweet)
UserInformation=IdExtract(TweetUser,Location)
MessageInformation=InformationExtarct(TweetTime
S tamp)
Message=Join(TextMessage,UserInformation,Messag
e
Information)
Score=Relevent(Message, MessageAuthenticSource)
if
TM==1 and UI==1 and MI==1:    score1="positive\n"
elif
TM==1 or UI==1 or MI==1:
score1="neutral\n"
else:
score1="negative\n"
UserScore=TM+UI+MI
TweetScore=TM+UI
```


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7. Conclusion

In this paper we have come up with a framework for examining fake news. We have been developing a plug that will help us to assess a piece of information on the twitter as unreal or not. The credibility of the information is carried out based on the Tweet score and User score. Deep learning methodology is used for evaluating Tweet score and User score.

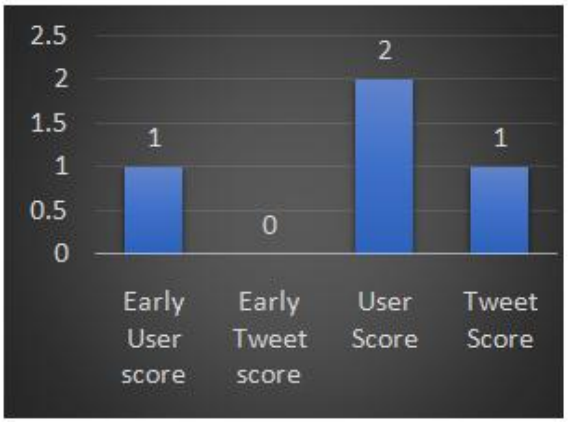

Figure 2: Graph

8. Future Enhancement

Plan to come up with a method to find similar communities in social networks based on their sentiments.
The system still needs to be tried out by more users with different event content and context

Acknowledgement

It gives us immense pleasure to bring out this project named as "Evaluating Twitter Credibility". We would like to express our gratitude to everyone who has helped us in making this project a reality. We would express our special thanks to our guide Prof.Lalitha .LA for her patience, insightful comments, helpful Information and ideas that have helped us in carrying out the Research

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