Research Paper on Fake News Detection Is Important or Not

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I.ABSTRACT

This research paper provides the users with an overview of the Fake news detection is important or not. All news are not real, right? How fake news are spreading like wildfire now. Fake news has a knack for spreading like wildfire, and with social media dominating our lives right now, it has become more critical than ever to distinguish between fake news from real news events. So how will you detect the fake new is big question. A type of journalism, fake news encapsulates pieces of news that may be hoaxes and is generally spread through social media and other online media. This is often done to further or impose certain ideas and is often achieved with political agendas. Such news items may contain false and/or exaggerated claims, and may end up being viral by algorithms, and users may end up in a filter bubble.With the current usage of social media platforms, consumers are creating and sharing more information than ever before, some of which are misleading with no relevance to reality.

II.INTRODUCTION

The advent of the World Wide Web and the rapid adoption of social media platforms such as Whatsapp, Facebook and Twitter cover the way for information dissemination that has never been witnessed in the human history before. Besides other use cases, news outlets benefitted from the widespread use of social media platforms by providing updated news in near real time to its subscribers. The news media grows from newspapers, and magazines to a digital form such as online news platforms, blogs, social media feeds, and other digital media formats. It became easier for consumers to get the latest news at their fingertips. Facebook referrals account for most of traffic to news websites. These social media platforms in their current state are extremely powerful and used for their ability to allow users to discuss and share ideas and also to debate over issues such as democracy, education, health and many others fields. However, such platforms are also used with a negative perspective by certain entities commonly for monetary gain and also in other cases for cre

ating biased opinions, mind-set manipulation, and spreading absurdity. The phenomenon is known as fake news.

As we can see a rapid increase in the spread of fake news in the last decade, most prominently observed for monetary gain. Such increased number of sharing articles online that do not conform to facts has led to many problems which not just limited to politics but also covering various other domains such as sports, health, science and also so many other domains. One such area affected by fake news is the financial markets, where a single rumour can have disastrous consequences and may bring the market to a halt.

Our ability to take a decision relies mostly on the type of information we consume form sources like newsletters, news channels and also most important social media which is contributing lager part in providing different news and information ; our world view is shaped on the basis of information we go through. There is increasing evidence that consumers have reacted illogical to news that later proved to be fake news. One recent case is the spread of novel corona virus, where fake reports spread over the internet about the origin, nature, and behaviour and also number of cases increased of the virus. The situation become more worsened as more people read about the fake contents online. Identifying such news online is a daunting task.

III.HISTORY

As we know social media channels are everywhere since the early 2000s, and it has been growing rapidly since then, Every day we spend 135 minutes on Facebook, Twitter, Instagram, and Whatsapp. It's hard to imagine a world without it. The list of social media tools could probably run on for paragraphs, and nowadays technology changes so rapidly that many industries, including corporations and news media, can barely keep up. In the traditional world, newspapers, corporations, governments, or other types of leading organizations simply had to give out information, and people would consume it by reading or looking at it. But this seemingly tried-and-true method is transforming

Making information easily available is not enough for to-day's people. Today's audiences expect to be able to choose what they read, and mostly believe that they should be able to contribute content and opinions, too. This change, some-times called as social media revolution, is not the end of journalism but it's the birth of a democratic movement that spotlight some of journalism's key factors like transparency, honesty, and giving a voice to the person who doesn't have one. While it can be a helpful tool, there are some issues that comes along with it. Journalists can instantly report just by using their smartphones and that is a huge impact social media has on it. Since news is so easy to share and almost anyone can call themselves an online journalist because they can share news, which makes difficult to find real news. The internet is flooded with Fake news and social media plat-forms are where we are more likely to find those types of articles. There are endless amounts of Twitter users who outpost for fake news and expose them.

IV. OBJECTIVE

Finding real news on social media like Twitter seems to be an issue especially since so many people can share the news and the far reach it has on audiences. Although fake news is almost impossible to avoid on social media, platforms such as Facebook, they try to change their appearances and func-tions to prevent fake news from spreading. It is important for social media platforms to acknowledge the fake news so they can prevent it from being shared to the mass audiences that use their services. Social media is now difficult place to locate reliable news sources. It becomes a struggle to find a reliable source. It is not always easy to be able to figure out if a news source is reliable or not, especially online.
There are same basic types of false news are as follows:
Satire (where no intention to cause harm but has potential to fool)
Falseconnection (where headlines, visuals or captions don't support the content)
Misleading content (where misleading use of information to create issue)
False context (where genuine content is shared with false contextual information)
Impostor content (where genuine sources are impersonated with false sources)
Manipulated content (where genuine information or imagery is manipulated to defraud, as with a doctored photo or video)
Fabricated content (where new content is 100% false, de-signed to defraud and do harm)
 While the rise of social media has helped journalism, it has also made some things much harder. The effects of news consumption via social media and news information over-load on perceptions of journalistic norms and practices. The impact of social media news use on willingness to pay is conditioned by news information overload. As mentioned earlier, all the previous researches that were reviewed for the purpose of this study were observed that addressed issues on spreading of fake news. In simple word, the study had criti-cally reviewed previous existing journalism adoption studies across the world. Based on all findings, it would emphasize and recommend that future studies should use other methods other than existing methods so as to bring new methods with a view to observe any variations from the previous research-es that might come up.

V. Methods used for Fake News Detection

Detecting fake news online is important in today's society as fresh news content is quickly being produced and get spread as a result of the abundance of available technology. In order to detect fake news, both linguistic and non-linguistic cues can be analysed using several methods.
Proposed framework
In proposed framework, by introducing ensemble tech-niques with various linguistic feature sets to classify news articles from multiple domains as true or fake.
Algorithms
1.   Logistic Regression
By classifying text on the basis of a wide feature set, with a binary output that is true/false or true article/fake article, a logistic regression model is used, since it pro-vides the intuitive equation to classify problems into binary or multiple classes. By performing hyper parame-ters tuning to get the best result for all individual da-tasets, while multiple parameters are tested before ac-quiring the maximum accuracies from LR model.
2.   Support Vector Machine
Support vector machine (SVM) is another model for binary classification problem and is available in various kernels functions. The objective of an SVM model is to estimate a hyper-plane on the basis of feature set to classify data points. The dimension of hyper-plane varies according to the num-ber of features.
3.   Multilayer Perceptron
A multilayer perceptron (MLP) is an artificial neural net-work, with an input layer, one or more hidden layers, and an output layer. MLP can be as simple as having each of the three layers; however, using fine-tuned the model with vari-ous parameters and number of layers to generate an optimum predicting model.

4. K-Nearest Neighbors (KNN)

KNN is an unsupervised machine learning model where a dependent variable is not required to predict the outcome on a specific data. By providing enough training data to the model and let it decide to which particular neighbourhood a data point belongs. KNN model estimates the distance of a new data point to its nearest neighbours, and the value of K estimates the majority of its neighbour's votes; if the value of K is 1, then the new data point is assigned to a class which has the nearest distance.

Ensemble Learners

It proposed using existing ensemble techniques along with textual characteristics as feature input to improve the overall accuracy for the purpose of classification between a truthful and a false article. Ensemble learners tend to have higher accuracies, as more than one model is trained using a particular technique to reduce the overall error rate and improve the performance of the model.

1. Random Forest (RF)

Random forest (RF) is an advanced form of decision trees (DT) which is also a supervised learning model. RF consists of large number of decision trees working individually to predict an outcome of a class where the final prediction is based on a class that received majority votes. The error rate is low in random forest as compared to other models, due to low correlation among trees.

2. Bagging Ensemble Classifiers

Bootstrap aggregating, or in short bagging classifier, is an early ensemble method mainly used to reduce the variance (over fitting) over a training set. Random forest model is one of the most frequently used as a variant of bagging classifier.
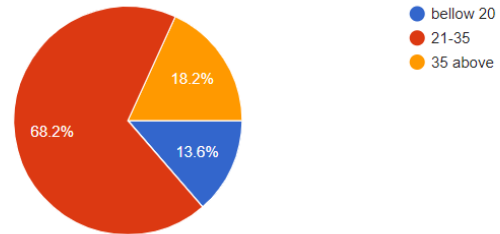
3. Boosting Ensemble Classifiers

Boosting is another widely used ensemble method to train weak models to become strong learners. For that purpose, a forest of randomized trees is trained, and the final prediction is based on the majority vote outcome from each tree. This method allows weak learners to correctly classify data points in an incremental approach that are usually misclassified.

4. Voting Ensemble Classifiers

Voting ensemble is generally used for classification problems as it allows the combination of two or more learning models trained on the whole dataset [39]. Each model predicts an outcome for a sample data point which is considered a "vote" in favour of the class that the model has predicted. Once each model predicts the outcome, the final prediction is based on the majority vote for a specific class [32]. Voting ensemble, as compared to bagging and boosting algorithms, is simpler in terms of implementation.
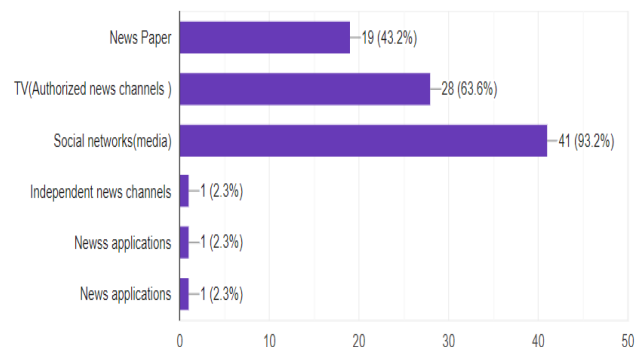
VI. FIGURES AND SURVEY RESULTS

1. "Different age groups"

Finding of survey response says this different age levels differentiates group of people into students, employees how used to read news in online format whereas housewife's, retired ones how are above 35 are still uses old resources read news.

2. "Which sources are you using to get news from?"

93.2% of people using social media for newsfeeds.
63.6% people are using TV that is authorized channels form news and information's
Whereas less the 20% people are using newspaper and other options for news reports.
So we can say that many of us are widely using social media in our day to day life for newsfeeds.

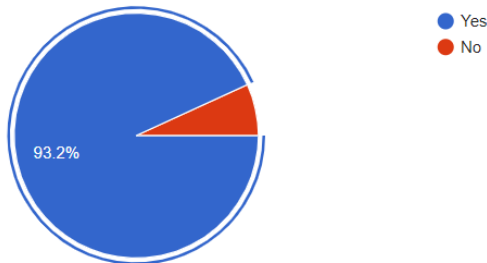3." which social media platforms you used in daily life?"
Overall, respondents use social media like Facebook, whatsapp, twitter, instagram and many other news applications for news reports. Which can be a big reason that fake news get viral very quickly.

4. "Are you able to detect fake news from this social media platforms?"
Finding of surveys says people are trying to detect if the news is fake or real. But many of us don't verify the news we come

across and just send it to each other which impacts the most to spread fake news.

5 ."Do you agree that fake news can impact our decisions? why?"

Majority of people reply's with yes. As per the survey response people do understand that
Fake news spread major rumours which can mislead them.
It can manipulate ones decision by spreading false information.
Because of it many of us make wrong judgments
It can also harm someone financially.
It portrays wrong visuals which influence people's mind in wrong direction
It leads to false propaganda which in turn might force people to make misjudged decisions.

6. "So what's your opinion on detecting fake news is important or not?"
Finding of survey says that many of us wants to identify if the news is real or fake. Because it is crucial to define between fake news and real ones. It is important to detect fake news which can leads to decrease the spreading of fake news on social media. We found that older generations tended to be pessimistic about its impact on their lifestyle and at work.It's too risky to rely on news forvital decisions.

VII.CONCLUSION

Clearly we can say having social media handles any one can share news in newsfeeds and have access to share news by their point of view. Which can lead to manipulate others decisions. Which can be harmful for society we leave in. Many of the readers just read news don't even try to verify if the news is real or not and send it to each and every person they know which lead to rapid spreading of news which are not real true or are not even written on true incidents. One can spread fake news for their own benefits for example of politics and for many other things. Which is why its import to detect fake news to stop unnecessary rumours, false information. As we

have also discussed some technologies and algorithms which can help us to identify real news and real news. Now a days AI is also working on this topics to differentiate between the real and fake news which can surely prevent us by spreading fake news, and also overcome its total impact.

VIII.ACKNOWLEDGEMENT

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