FAKE NEWS DETECTION USING DEEP LEARNING

Jeyalakshmi M[1], Selvameenakshi. V[2], Shobanapandi. S[3], Sipriya. R[4], Siyamala. K.T.G[5]

[1]Jeyalakshmi M. Department of Electronic and Communication Engineering, SSM Institute of Engineering and Technology, Dindigul, India.

[2-5]Selvameenakshi.V, Shobanapandi.S, Sipriya.R, Siyamala.K.T.G. Department of Electronic and Communication Engineering, SSM Institute of Engineering and Technology, Dindigul, India.

---***---

Abstract - Due to the exponential growth of information online, it is becoming impossible to decipher the true from the false. Thus, this leads to the problem of fake news. This research considers previous and current methods for fake news detection in textual formats while detailing how and why fake news exists in the first place. This paper includes a discussion on Linguistic Cue and Network Analysis approaches, and proposes a three-part method using Naïve Bayes Classifier, Support Vector Machines, and Semantic Analysis as an accurate way to detect fake news on social media. This Project comes up with the applications of NLP (Natural Language Processing) techniques for detecting the 'fake news', that is, misleading news stories that comes from the non-reputable sources. Only by building a model based on a count vectorizer (using word tallies) or a (Term Frequency Inverse Document Frequency) tfidf matrix, (word tallies relative to how often they're used in other articles in your dataset) can only get you so far. But these models do not consider the important qualities like word ordering and context. It is very possible that two articles that are similar in their word count will be completely different in their meaning. The data science community has responded by taking actions against the problem. There is a Kaggle competition called as the "Fake News Challenge" and Facebook is employing AI to filter fake news stories out of users' feeds. Combatting the fake news is a classic text classification project with a straight forward proposition. Is it possible for you to build a model that can differentiate between "Real "news and "Fake" news? So a proposed work on assembling a dataset of both fake and real news and employ a Naive Bayes classifier in order to create a model to classify an article into fake or real based on its words and phrases.

1. INTRODUCTION

These days' fake news is creating different issues from sarcastic articles to a fabricated news and plan government propaganda in some outlets. Fake news and lack of trust in the media are growing problems with huge ramifications in our society. Obviously, a purposely misleading story is "fake news " but lately blathering social media's discourse is changing its definition. Some of them now use the term to dismiss the facts counter to their preferred viewpoints.The importance of disinformation within American political discourse was the subject of weighty attention, particularly following the American president election. The term 'fake news' became common parlance for the issue, particularly to describe factually incorrect and misleading articles published mostly for the purpose of making money through page views. In this paper, it is seeked to produce a model that can accurately predict the likelihood that a given article is fake news. Facebook has been at the epicenter of much critique following media attention. They have already implemented a feature to flag fake news on the site when a user sees's it; they have also said publicly they are working on to distinguish these articles *in* an automated way. Certainly, it is not an easy task. A given algorithm must be politically unbiased – since fake news exists on both ends of the spectrum – and also give equal balance to legitimate news sources on either end of the spectrum. In addition, the question of legitimacy is a difficult one. However, in order to solve this problem, it is necessary to have an understanding on what Fake News is. Later, it is needed to look into how the techniques in the fields of machine learning, natural language processing help us to detect fake news.

Fake news denotes a type of yellow press which intentionally presents misinformation or hoaxes spreading through both traditional print news media and recent online social media. Fake news has been existing for a long time, since the "Great moon hoax" published

In 1835 [1]. In recent years, due to the booming developments of online social networks, fake news for various commercial and political purposes has been appearing in large numbers and widespread in the online world. With deceptive words, online social network users can get infected by these online fake news easily, which has brought about tremendous effects on the offline society already. During the 2016 US president election, various kinds of fake news about the candidates widely spread in the online social networks, which may have a significant effect on the election results. According to a post-election statistical report [4], online social networks account for more than 41.8% of the fake news data traffic in the election, which is much greater than the data traffic shares of both traditional TV/radio/print medium and online search engines respectively.

An important goal in improving the trustworthiness of information in online social networks is to identify the fake news timely, which will be the main tasks studied in this paper. Fake news has significant differences compared with traditional suspicious information, like spams [70], [71], [20], [3], in various aspects: (1) impact on society: spams