COPY RIGHT

Paper Authors

Pala Prathima, Dr. V. Madhukar

USE THIS BARCODE TO ACCESS YOUR ONLINE PAPER

To Secure Your Paper As Per UGC Guidelines We Are Providing A Electronic Bar Code

A REVIEW ON CHATBOT FAKE DETECTION USING MACHINE LEARNING

Pala Prathima[1], Dr. V. Madhukar[2]

[1] Research Scholar, Department of Computer Science, Chaitanya Deemed To Be University, Warangal, India.

[2] Assistant Professor, Department of Computer Science, Chaitanya Deemed To Be University, Warangal, India.

Abstract

In the present era social media has significant impact on our society, culture, business with potentially positive and negative effects. Now-a-days, due to the increase in use of online social networks, the fake news for various areas like Facebook, Twitter, Instagram etc. has been emerging in large numbers and widely spread in the online world. The existing chatbots are not efficient in giving a precise statistical rating for any given news. Also, the restrictions on input and category of news make it less varied. This paper aim is to get knowledge about types of fake news and detectors for various events.

Introduction

A chatbot is a human mimic computer software program designed to interact with people. The technologies like Artificial Intelligence, machine learning and Natural language processing are used to develop these chatbots. Most business and industries [1] like banking financial services and insurance, healthcare, travels and tourism, e-commerce etc. uses chatbots to connect with customers in a personal way without human representatives. The main reason why chatbots are becoming more significant because they can work 24x7 [2]. So most of the business and industries save their time and money by using chatbots. Generally, [3] there are two types of chatbots one is Rule-Based and Self-Learning. In Rule-based, chatbots are trained to answer for trained questions but Self-Learning bots can learn and train themselves. But in today's generation we use AI chatbots that uses Natural Language Processing to understand users text or voice.

In the present era, our country is gradually getting digitalized as the Internet is expanding. Internet is the significant source of information, entertainment and communication. The central part of societal digitalization is the online social networks(OSNs), such as Facebook, Twitter etc. Nowadays social media as become a part of people's daily life, giving users the platform to interact, express themselves and access news [4], [5]. Facebook has 1.8 billion daily users and Twitter has 211 million monetizing daily users [6]. The social networks has brought the world together due to ease of communication and access to information [7]. At the same time, this easy access to information comes with its drawback such as fake news in the form of propaganda, misinformation etc. [8]. More than 40% of traffic to websites spreading fake news is redirected through links on Facebook, Instagram, and Twitter [9] due to their easy access and rapid dissemination. Fake news can be described as a kind of news story involving intentional false information to alter users' minds on social media. Although the topic of fake news is not new, the study of fake news spreaders on social media is a developing

topic [10]. There are currently numerous challenging issues which currently require further investigation such as differentiating a user account from automated accounts. Automated accounts are controlled by algorithms known as social bots [11]. Multiple social bots can take the form of a social botnet. Social botnet is a group of social bots created and controlled by a botmaster. They perform malicious activities, such as creating multiple fake accounts, spreading spam, manipulating online ratings, and so on.

Despite the efforts to detect social bots, it is still difficult to distinguish them from legitimate users which makes it a challenge . The process of social bots identification and their detection is cyclic. New bots are created which spread fake news. And then new social bots filters are derived to tackle them, while old bots mutate into advanced ones. Sometimes automated accounts show human characteristics giving birth to ''Cyborg'' [12]. These bots can even interact as legitimate users when the human takes over the bot profile from time to time

Literature Review

To conduct this study, due to an extensive volume of literature on this topic, we used keywords such as Bot detection on social media', 'Fake news users', 'Human and Bot detection on twitter' and other similar keywords. Based on these keywords, relevant papers were extracted published within the last three years from reputed databases such as IEEE, Spring, Elsevier and ACM.

Several authors show the effectiveness of classifiers and models developed with these. Ahmed et al. [13] examine several machine learning

techniques in the form of different classifiers which all display a high level of accuracy when used on fake news datasets, the most effective being the Linear SVM (Support Vector Machine) classifier.

Faustini & Covões [14] also utilized SVM based algorithms with their One-Class Classification approach, which was concluded to have the potential to not only distinguish fake news from real news, but also from opinion-pieces and propaganda.

Kaur et al. (2019) [15] showed how various machine learning classifiers were integrated into a single multi-level model in which they could increase performance and results by working together, helping to offset each other's weaknesses. Classification relying on lexical rules, syntax, semantics, and similar factors achieved promising results, with the models being able to achieve results equal to that of the human ability to detect fake news (Pérez-Rosas et al., 2017 [6];

Waikhom & Goswami, [16] Kai Shu et al. present FakeNewsTracker, a system to understand and detect fake news. FakeNewsTracker benefits researcher in identifying fake news by automatically collecting data for news and social context with a number of effective visualization techniques. The dataset has been built through Politifact and twitter feed and considers article body, retweets and engagements as the features for binary classification of news article. LSTM with two layers consisting of 100 cells has been employed as their base technique to train the model and testing has been done with other Machine Learning algorithms like Support Vector Machine, Logistic Regression and Naïve Bayes Classifier. While Support Vector Machine and Logistic Regression obtained relatively close accuracies at 68.4%

International Journal for Innovative Engineering and Management Research
A Peer Reviewed Open Access International Journal

www.ijiemr.org

and 68.3 respectively, Naïve Bayes returned 62% accuracy. Also, retweets were not considered for both training and testing.

Veronica Perez-Rosas et al [17], the research aims at creating an automatic fake news detector. Their dataset is diverse, such that it covers seven different domains. FakeNewsAMT and Celebrity datasets have been employed for their research. Their feature set consists of n-grams, punctuations, psycholinguistic features, readability, and syntax.

PROBLEM IDENTIFICATION

Identifying fake news has become a major issue. Increasing usage of social media has led to an increase in the number of people who can be influenced, thus the spread of fake news can potentially impact important events. Fake news has become a major social problems and a technical issue for social media companies to identify and has led many to extreme measures, such as WhatsApp deleting two million of its users every month to prevent the spread of fake news. The current problem of fake news is rooted in the historical problem of disinformation, which is false information intentionally.

Our work identifies the problem of analyzing fake news by

- (i) Detecting and analyzing fake news issues
- (ii) Identifying the textual and social, cultural and fake news issues

METHODOLOGY

A fake news detector system will simply detect a news whether it is fake or not fake using AI Chatbot. Here, we will be using a verified Chatbot and it will be available in the social media platforms through that we can be a verified user or we can be a verified Chatbot. Usually, we all know that many websites have many Chatbot which always creates a mess between a verified Chatbot and a scam or somehow that kinds of Chatbot which are fraud. A user is not able to understand or differentiate between a verified and fraudulent Chatbot. So, we will be trying to detect the real news and fake news through being a verified Chatbot. It's a detector system of that features through which we can spread a positive vibe in the society and creating awareness in the surrounding.

CONCLUSIONS

In this paper, we have understand fake news detector system which can identify the fake news and will tell the real news. It will be further connected with the AI Chatbot through that it will also detect the fake news. We all know that many websites have many Chatbot which always creates a mess between a verified Chatbot and a scam or somehow that kinds of Chatbot which are fraud. A user is not able to understand or differentiate between a verified and fraudulent Chatbot. So, we will be trying to detect the real news and fake news through being a verified Chatbot. It is just an introduction to our research project, further we will implement this ideas using ML and NLP as our future work.

Reference

1. https://www.oracle.com/in/chatbots/what-is-a-chatbot/#:~:text=Chatbots%20allow%20businesses%20to%20connect,create%20FAQs%20and%20troubleshooting%20guides.

International Conference On Recent Challenges & Explorations In Engineering Technology & Science

2. https://towardsdatascience.com/ai-chatbot-for-sentiment-analysis-on-fake-messages-abf96382a92d

3. https://www.upgrad.com/blog/how-to-make-chatbot-in-python/

4. Y.-J. Lu and C.-T. Li, ''GCAN: Graph-aware co-attention networks for explainable fake news detection on social media,'' 2020, arXiv:2004.11648.

5. C. Grimme, M. Preuss, L. Adam, and H. Trautmann, ''Social bots: Human-like by means of human control?'' Big Data, vol. 5, no. 4, pp. 279–293, Dec. 2017.

6. C. Snider. (Sep. 2021). Social Media Statistics. [Online]. Available: https://chrissniderdesign.com/blog/resources/social-media-statistics/

7. Y. Roth and D. Harvey, ''How Twitter is fighting spam and malicious automation,'' Twitter [Blog], June, Jun. 2018.

8. K. Yang, O. Varol, C. A. Davis, E. Ferrara, A. Flammini, and F. Menczer, ''Arming the public with artificial intelligence to counter social bots,'' Hum. Behav. Emerg. Technol., vol. 1, no. 1, pp. 48–61, Jan. 2019.

9. H. Allcott and M. Gentzkow, ''Social media and fake news in the 2016 election,'' J. Econ. Perspect., vol. 31, no. 2, pp. 36–211, 2017.

10. K. Shu, A. Sliva, S. Wang, J. Tang, and H. Liu, ''Fake news detection on social media: A data mining perspective,'' ACM SIGKDD Explor. Newslett., vol. 19, no. 1, pp. 22–36, 2017.

11. C. Wardle and H. Derakhshan, ''Thinking about 'information disorder': Formats of misinformation, disinformation, and mal-information,'' in Journalism,'Fake News'& Disinformation, C. Ireton and J. Posetti. Paris, France: Unesco, 2018, pp. 43–54.

12. K. Warwick, ''Cyborg morals, cyborg values, cyborg ethics,'' Ethics Inf. Technol., vol. 5, no. 3, pp. 131–137, 2003.

13. Ahmed, H., Traore, I., & Saad, S. (2017, October). Detection of online fake news using Ngram analysis and machine learning techniques. In International Conference on Intelligent, Secure, and Dependable Systems in Distributed and Cloud Environments (pp. 127-138). Springer, Cham.

14. Faustini, P., & Covões, T. F. (2019, October). Fake News Detection Using One-Class Classification. In 2019 8th Brazilian Conference on Intelligent Systems (BRACIS) (pp. 592-597). IEEE.

15. Kaur, S., Kumar, P., & Kumaraguru, P. (2019). Automating fake news detection system using multi-level voting model. Soft Computing, 1-21.

16. Waikhom, L., & Goswami, R. S. (2019). Fake News Detection Using Machine Learning. Available at SSRN 3462938.

17. Kai Shu, Deepak Mahudeswaran, Huan Liu, "FakeNewsTracker: a tool for fake news collection, detection, and visualization", Computational & Mathematical Organization Theory, vol. 25 issue 1, pp. 60-71.

International Conference On Recent Challenges & Explorations In Engineering Technology & Science