Tech Saksham

Final Project Report

Track Name

DETECTION OF FAKE NEWS”

MIT ARTS AND SCIENCE FOR WOMAN”

ROLL NO	NAME
CB20S262227	ABINAYA R
CB20S262241	SNEHA D
CB20S262243	VANISHREE P
CB20S262244	VISHNUPRIYA K

MAYANK SHRIVASTAVA

Trainer Name

Master Trainer

ABSTRACT

Do you trust all the news you hear from social media?

All news are not real, right?

How will you detect fake news?

The answer is Python. By practicing this advanced python project of detecting fake news, you will easily make a difference between real and fake news.

Before moving ahead in this machine learning project, get aware of the terms related to it like fake news, tfidfvectorizer, PassiveAggressive Classifier.

Also, I like to add that DataFlair has published a series of machine learning Projects where you will get interesting and open-source advanced ml projects. Do check, and then share your experience through comments

INDEX

CHAPTER 1

INTRODUCTION

Today, we learned to detect fake news with Python. We took a political dataset, implemented a TfidfVectorizer, initialized a PassiveAggressiveClassifier, and fit our model. We ended up obtaining an accuracy of 92.82% in magnitude.

Hope you enjoyed the fake news detection python project. Keep visiting DataFlair for more interesting python, data science, and machine learning projects.

Fake news:

Rournalism, 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 viralized by algorithms, and users may

CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services Used

2.1.1 Liberty Profile

2.2 Tools and Softwares used

2.2.1 Jupiter node

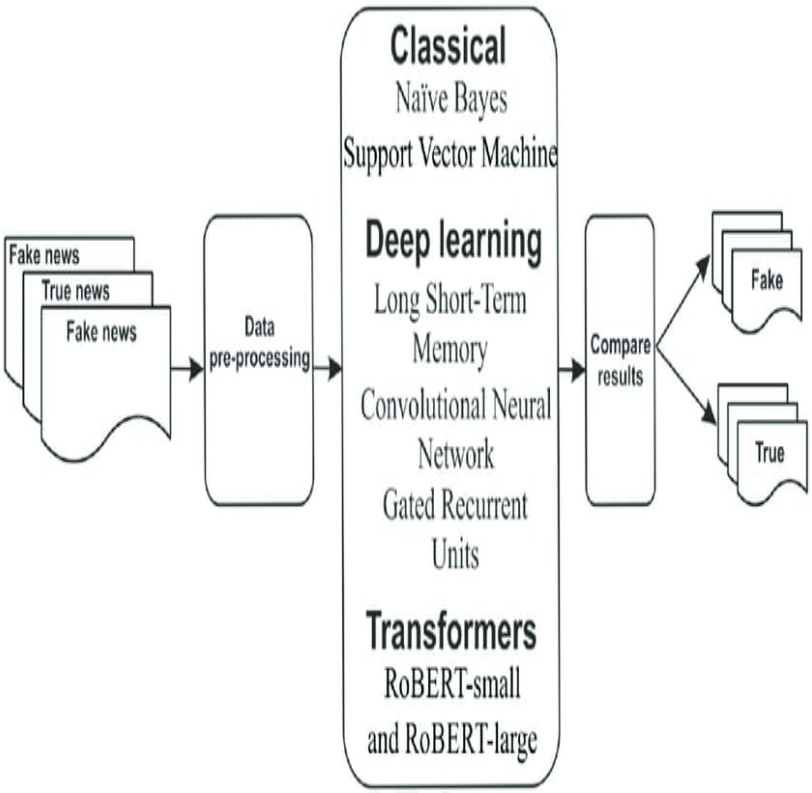
2.2.2 python

2.3 Cloud Foundry

CHAPTER 3

PROJECT ARCHITECTUREARCHITECTURE

Architecture



CHAPTER 4

ARCHITECTURE BLOCKS DETAIL WORKING

14 A Comparative Study of Computational Fake News Detection on Social MediaFig. 4: A General Fake News Detection Architecture.•Feature Extraction: This components aims to create a formal mathematicalstructure in order to represent news content and related auxiliary data thatis helpful to construct fake news detection model. The feature extractioncomponent performs important NLP functions including (i). bag-of-words(it is a method of counting the number of times a word appears in a docu-ment which is helpful to compare documents and assess their similarities forthe required applications including search, classifying documents and topicmodelling [72]), (ii). n-grams (it is an n-item contiguous sequence createdfrom a given text sample which is helpful to extract text corpus features [73]for building fake news detection model), (iii). TF-IDF weighting (TF-IDF is an acronym for Term-Frequency-Inverse Document Frequency whichis a powerful technique of determining the topic of an article based on thewords it includes that measures relevance, but not frequency [74] and it hashelped to create popular and valuable tools such as Google Search [75]),(iv). word2Vec (it is a two-layer neural network that ”vectorizes” words

CONCLUSION

Through utilization of different kinds of Machine Learning Algorithms, this paper is aimed to exploit different aspects of dataset which has not been deeply considered in literature and to find a good way of detection of the fake and automated accounts. In this paper we have presented a Machine Learning pipeline for detecting fake accounts in online social networks. Rather than making a prediction using one single algorithm, our system uses three different classification algorithms to determine whether or not an account in the provided dataset is a fake account or not. Our evaluation using Support Vector Machine, Random Forest and Neural Networks showed strong performance, and the comparison of the accuracy of prediction seemed to be higher using Support Vector Machine for the given dataset. The Accuracy of detecting fake accounts is found to be higher using Random Forest Algorithm followed by Neural Networks Algorithm for a given dataset. As a future work,[5] recurrent neural networks can be utilized for the time series user data for a better detection of fake accounts and the algorithms can be applied to various social online platforms such as Instagram, LinkedIn and Twitter to detect the fake accounts.

REFERENCES

1. December 17, 2016). "What is fake news? How to spot it and what you can do to stop it". The Guardian. Retrieved January 15, 2017.

Schlesinger, Robert (April 14, 2017). "Fake news in reality". U.S. News & World Report.

2. "The real story of 'fake news': The term seems to have emerged around the end of the 19th century". Merriam-Webster. Retrieved October 13, 2017.

3. Soll, Jacob (December 18, 2016). "The long and brutal history of fake news". Politico Magazine. Retrieved March 25, 2019.

4. Himma-Kadakas, Marju (July 2017). "Alternative facts and fake news entering journalistic content production cycle". Cosmopolitan Civil Societies. 9 (2): 25–41. doi:10.5130/ccs.v9i2.5469.

5. Tufekci, Zeynep (January 16, 2018). "It's the (democracy-poisoning) golden age of free speech". Wired.

6. Woolf, Nicky (November 11, 2016). "How to solve Facebook's fake news problem: Experts pitch their ideas". The Guardian. Retrieved January 15, 2017.

7. Borney, Nathan (May 9, 2018). "5 reasons why 'fake news' likely will get even worse". USA Today. Retrieved February 17, 2019.

8. Silverman, Craig (November 16, 2016). "This analysis shows how viral fake election news stories outperformed real news on Facebook". BuzzFeed News. Retrieved July 20, 2022.

9. Leonhardt, David; Thompson, Stuart A. (June 23, 2017). "Trump's lies". The New York Times. Retrieved June 23, 2017.
10. Higdon, Nolan (August 15, 2020). The anatomy of fake news: A critical news literacy education. University of California Press. ISBN 9780520347878. Retrieved September 12, 2020.
11. Ember, Sydney; Mihailidis, Paul (April 3, 2017). "This is not fake news (but don't go by the headline)". The New York Times. Fake news – a neologism to describe stories that are just not true, like Pizzagate, and a term now co-opted to characterize unfavorable news – has given new urgency to the teaching of media literacy
12. H. Allcott; M.Gentzkow (2017). "Social media and fake news in the 2016 Election" (PDF). Journal of Economic Perspectives. 31 (2): 211–236. doi:10.1257/jep.31.2.211. S2CID 32730475. Retrieved May 3, 2017.
13. Wemple, Erik (December 8, 2016), "Facebook's Sheryl Sandberg says people don't want 'hoax' news. Really?", The Washington Post
14. Jackson, Dean (2018), DISTINGUISHING DISINFORMATION FROM PROPAGANDA, MISINFORMATION, AND "FAKE NEWS" (PDF), National Endowment for Democracy
15. Beisecker, Sven; Schlereth, Christian; Hein, Sebastian (August 11, 2022). "Shades of fake news: how fallacies influence consumers' perception". European Journal of Information Systems: 1–20. doi:10.1080/0960085X.2022.2110000. ISSN 0960-085X. S2CID 251529175.
16. Lazer, David M. J.; Baum, Matthew A.; Benkler, Yochai; Berinsky, Adam J.; Greenhill, Kelly M.; Menczer, Filippo; Metzger, Miriam J.; Nyhan, Brendan; Pennycook, Gordon; Rothschild, David; Schudson, Michael; Sloman, Steven A.; Sunstein, Cass R.; Thorson, Emily A.; Watts, Duncan J.; Zittrain, Jonathan L. (March 9, 2018). "The science of fake news". Science. 359 (6380): 1094–1096. Bibcode:2018Sci...359.1094L.

doi:10.1126/science.aao2998. PMID 29590025. S2CID 4410672.
60 Minutes overtime: What's "fake news"? 60 Minutes producers investigate. CBS News. March 26, 2017. Retrieved March 27, 2017.
17. Apple, Charles (April 20, 2020). "Fake news: What is it?". The Spokesman-Review. Retrieved March 7, 2021.
Shafer, Jack (November 22, 2016). "The cure for fake news is worse than the disease". Politico. Retrieved February 19, 2017.
18. Gobry, Pascal-Emmanuel (December 12, 2016). "The crushing anxiety behind the media's fake news hysteria". The Week. Retrieved February 19, 2017.
19. Carlson, Matt (August 2018). "Fake news as an informational moral panic: the symbolic deviancy of social media during the 2016 US presidential election". Information, Communication & Society. 23 (3): 374–388. doi:10.1080/1369118X.2018.1505934. S2CID 149496585.
20. Merlo, Carlos (2017), "Millonario negocio FAKE NEWS", Univision Noticias
21. Mihailidis, Paul; Viotty, Samantha (April 2017). "Spreadable spectacle in digital culture: Civic expression, fake news, and the role of media literacies in 'post-fact' society". American Behavioral Scientist. 61 (4): 441–454. doi:10.1177/0002764217701217. S2CID 151950124.
22. Habgood-Coote, Joshua (November 26, 2019). "Stop talking about fake news!". Inquiry. 62 (9–10): 1033–1065. doi:10.1080/0020174x.2018.1508363. hdl:1983/96ab36c8-e90d-42e5-9e5f-5bf2ea877ce0. S2CID 171722153.
23. "Fake news inquiry by MPs examines threat to democracy". BBC News. January 30, 2017.
24.Holan, Angie Drobnic (December 13, 2016). "2016 Lie of the Year: Fake news". PolitiFact.com.
25. World Trends in Freedom of Expression and Media Development

Global Report 2017/2018. UNESCO. 2018. p. 202.

Bounegru, Liliana; Gray, Jonathan; Venturini, Tommaso; Mauri, Michele (January 8, 2018). A field guide to "fake news" and other)

CODE

Please Provide Code through Git Hub Repo Link

```
import numpy as np
import pandas as pd
import itertools
from sklearn.model_selection import train_test_split
from sklearn.feature_extraction.text import TfidfVectorizer
from sklearn.linear_model import PassiveAggressiveClassifier
from sklearn.metrics import accuracy_score, confusion_matrix
```