

# FAKE NEWS DETECTION USING CONFLICTING VIEWPOINTS

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(Dated: April 29, 2022)

## I. INTRODUCTION

With the increasing developments in society, the risk of encountering fake news is also increasing. Even a simple myth or a fake news article may result in fear wave among public resulting in severe physical or mental harm. Hence, resulting in the need for a fake news detection system. For these automated fake news detection, the model is trained using a few or more of those news articles' features. Some use sources, and some use author, some use comments, some use words, etc. We are using our hypothesis over the comment feature.

## II. PROBLEM STATEMENT

Given a set of news posts, Combine the conflicting viewpoints with news content features for fake news detection.

## III. ALGORITHM

```
FakeNewsDetection(read dataset)
```

```
# Import all the modules  
Extract(comments)
```

```
Pre-processing Data:
```

```
# pre-processing the data typically consists of:  
stemming(comment)  
Tokenization(comment)  
Remove stopwords(comment)
```

```
Vectorizing Data: TF-IDF
```

```
# converting the textual data to numerical data  
vectorizer = TfidfVectorizer()  
vectorizer.fit(X)
```

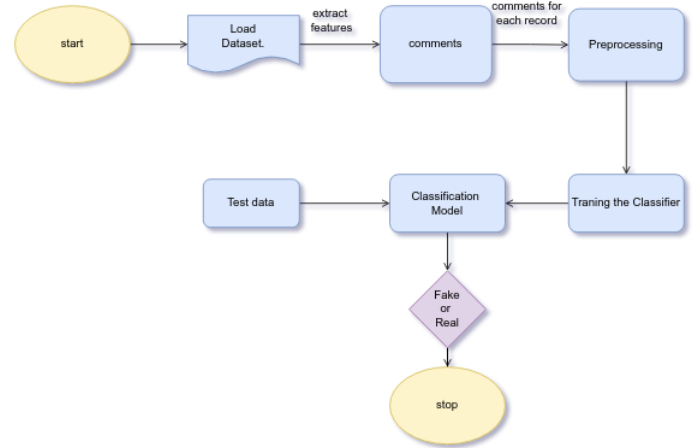
```
#Splitting the dataset to training test data  
TrainTestSplit(test size = 0.2)
```

```
Training the classifier  
model = LogisticRegression()  
model.fit(Xtrain, Ytrain)
```

```
Predicting the news article fake or real.
```

## IV. DESIGN

### A. Data flow diagram



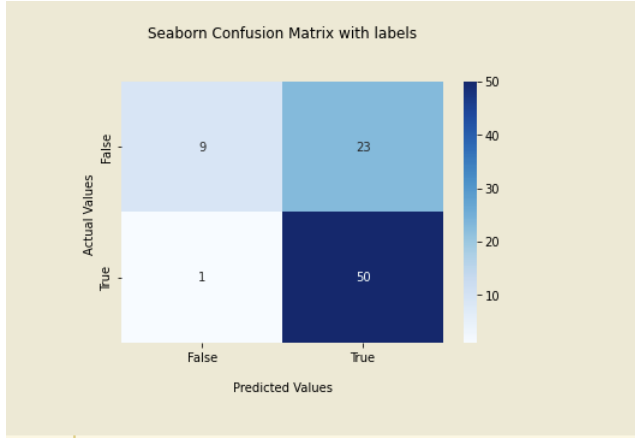
### B. Classification Models



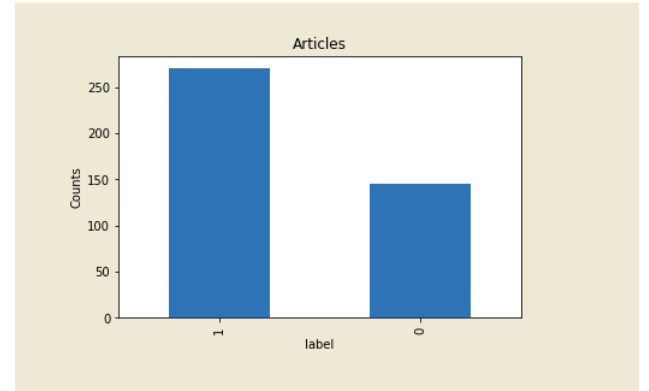
## V. EXPERIMENTATION AND RESULTS

Model : Logistic Regression  
Dataset : FakenewsNet(Politifact)  
Accuracy score of the training data : 0.8554216867469879  
Accuracy score of the test data : 0.7108433734939759

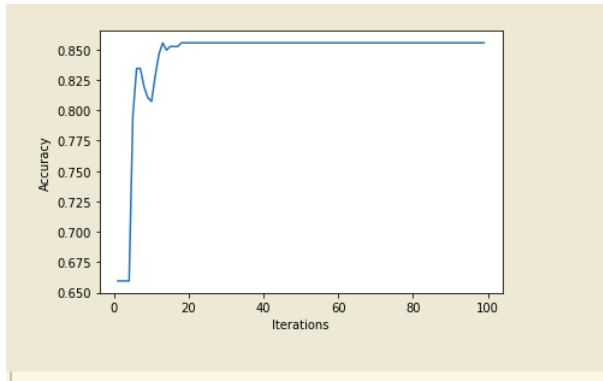
### A. Confusion matrix



### D. Article count analysis



### B. Accuracy vs Iteration



### E. Result

```
# accuracy score on the training data
X_train_prediction = model.predict(X_train)
training_data_accuracy = accuracy_score(X_train_prediction, Y_train)

print('Accuracy score of the training data : ', training_data_accuracy)

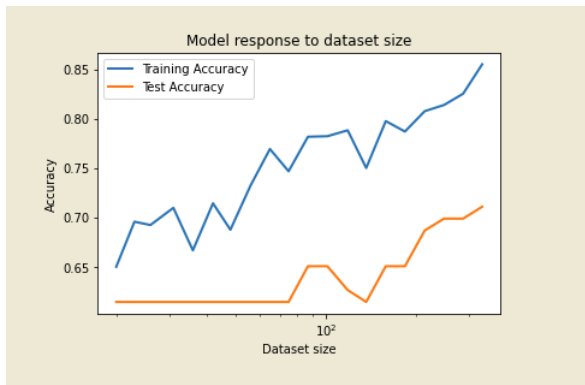
Accuracy score of the training data : 0.8554216867469879

# accuracy score on the test data
X_test_prediction = model.predict(X_test)
test_data_accuracy = accuracy_score(X_test_prediction, Y_test)

print('Accuracy score of the test data : ', test_data_accuracy)

Accuracy score of the test data : 0.7108433734939759
```

### C. Accuracy vs Data size



## VI. REFERENCES

[1] Shu K, Cui L, Wang S, Lee D, Liu H (2019) dDEFEND: explainable fake news detection. In: Proceedings of 25th ACM SIGKDD conference on knowledge discovery and data mining (KDD 2019). Anchorage, AK, USA. ACM, New York, NY, USA, 11 pages, August 4–8, 2019.

News verification by exploiting conflicting social viewpoints in microblogs. <https://dl.acm.org/doi/10.5555/3016100.3016318>