Model

Fake News Detection using Python and Machine Learning

Team Name:PSA

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Required libraries:

- pandas
- seaborn
- matplotlib.pyplot
- tqdm
- re
- nltk
- os
- string
- accuracy_score
- LogisticRegresstion
- word_tokenize
- train_test_split

Datasets:

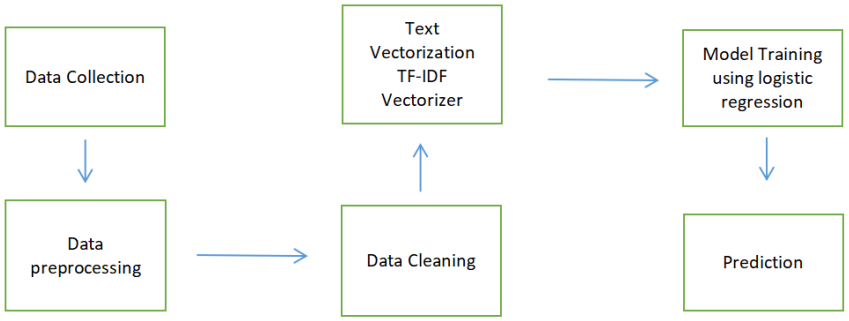
https://onlineacademiccommunity.uvic.ca/isot/2022/11/27/fake-news-detection-datasets/

Model selection:

Logistic regression:A supervised machine learning algorithm used for binary classification.It is a common and popular algorithm that classifies items based on sigmoid function:

```
LR=LogisticRegression()
LR.fit(xv_train,y_train)
LR_prediction=LR.predict(xv_test)
```

Model architecture:



Evaluation of model:

```
[19]: #TODO: Model training and print the accuracy s
LR=LogisticRegression()
LR.fit(xv_train,y_train)
LR_prediction=LR.predict(xv_test)
accuracy=accuracy_score(y_test,LR_prediction)
print(accuracy)
```

```
0.9883296213808463
```

```
[20]: # Display the Confusion matrix of Results from your classification algorithm
from sklearn.metrics import classification_report,confusion_matrix
print("Classification Report\n",classification_report(y_test,LR_prediction))
cm=confusion_matrix(y_test,LR_prediction)
sns.heatmap(cm, annot=True, cmap='Blues', fmt='d')
plt.title('Confusion Matrix')
plt.xlabel('Predicted label')
plt.ylabel('True label')
plt.show()
```

```
Classification Report
              precision    recall  f1-score   support

           0       0.99      0.99      0.99      5794
           1       0.99      0.99      0.99      5431

    accuracy                           0.99     11225
   macro avg       0.99      0.99      0.99     11225
weighted avg       0.99      0.99      0.99     11225
```