

FALSE INFORMATION DETECTION USING Long Short-Term Algorithm(LSTM).

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ROLES AND RESPONSIBILITIES

Project flow design – Vinay Kumar

Data Processing – Lakshmi

Model implementation – Sreeja,
Lakshmi

Data analysis – Vinay Kumar


Data feature extraction – Lakshmi

LSTM model Implementation –
Srivalli


Code review – Vinay Kumar,
Srivalli

Final Report– Sreeja , Lakshmi
Documenting final result-
Srivalli.

MOTIVATION

- ❖ The world is changing very quickly. Living in the digital age has many advantages, no question, but there are also certain disadvantages to take into account.
 - ❖ False information may be disseminated using a number of internet mediums. The likes of Twitter, Facebook, etc.
 - ❖ It is impossible for a human to recognize every one of these scams. Such disinformation efforts have to be automatically detectable by machine learning classifiers.
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OBJECTIVES

- ❑ It aims to implement False Information detection using LSTM which results in automatically detect the fake news.
 - ❑ To generate the accurate and informative News.
 - ❑ To improve in not spreading the fake information around.
 - ❑ To improve machine learning models and enable automation of detecting the fake news.
 - ❑ To enhance the search engine optimization.
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PROBLEM STATEMENT

The fake news can influence people's attitudes, beliefs, or perceptions in order to influence behavior in the long run. Your decisions and beliefs are influenced by someone else if you fall for fake news. Additionally, disseminating and publishing false information may have legal repercussions in some regions of the world.

Therefore, there need to develop the application which differentiate between fake news and accurate one.



RELATED WORK

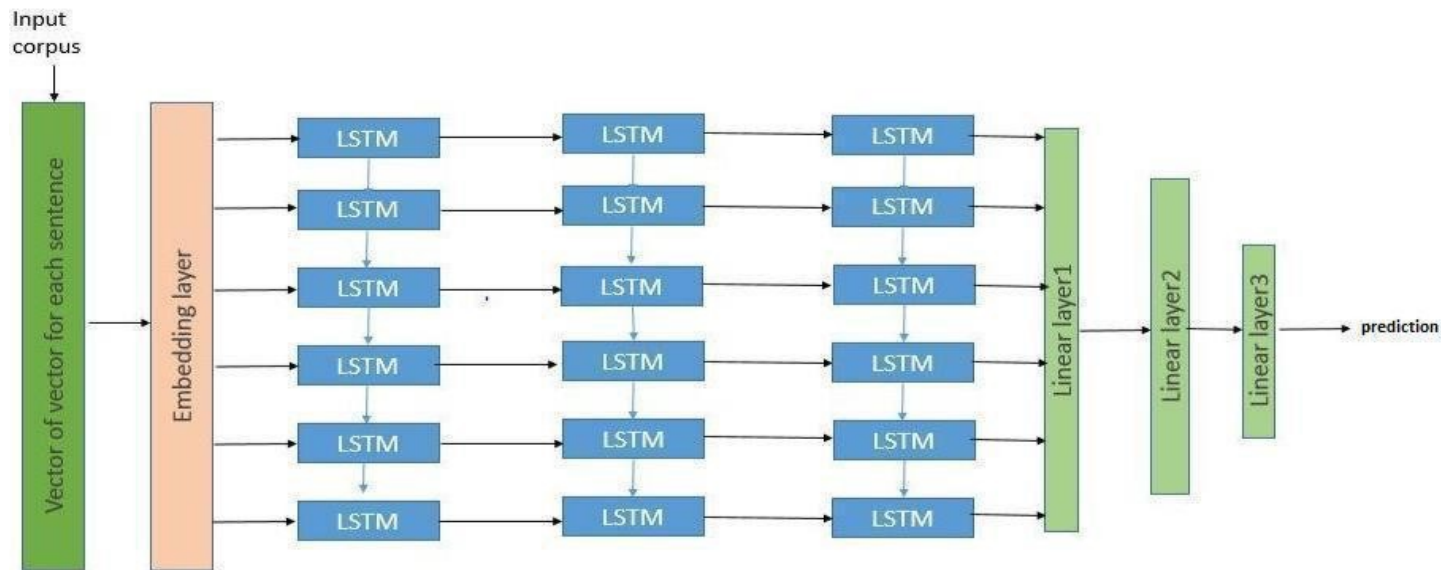
- ❖ "Detecting Fake News on Social Media Using Geometric Deep Learning" by Wang et al. (2021) - In this study, the authors used a graph-based approach to detect fake news on social media. They used a Graph Convolutional Network (GCN) to extract features from the graph and a Support Vector Machine (SVM) classifier to classify the news as fake or real. The results showed that the proposed method achieved an accuracy of 87.6% in detecting fake news.
 - ❖ "Fake News Detection on Social Media using Hybrid CNN and RNN Models" by Li et al. (2020) - In this study, the authors proposed a hybrid Convolutional Neural Network (CNN) and Recurrent Neural Network (RNN) model for fake news detection on social media. The CNN model was used to extract features from the text, while the RNN model was used to capture the temporal dependencies. The results showed that the proposed method achieved an accuracy of 92.3% in detecting fake news.
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PROPOSED SOLUTION

- ❑ In our project we proposed the Long short-term memory (LSTM) is an artificial recurrent neural network (RNN) architecture used in the field of deep learning. Unlike standard feed-forward neural networks, LSTM has feedback connections. It can not only process single data points (such as images),.
- ❑ To train our LSTM model, we have used a dataset of news articles that are labeled as either fake or real. We have preprocessed the data to remove stop words, punctuation, and other noise, and then trained the LSTM model to learn the temporal dependencies in the text and classify the news as fake or real. We have evaluated the performance of our model using several metrics, including accuracy, precision, recall, and F1 score.



PROPOSED SOLUTION



RESULTS

The model is able to accurately classify news articles as real or fake with a high degree of confidence

After training model we did the validation i.e testing model. Where got the result accuracy of 0.99%.

Therefore, the LSTM algorithm gives accurate result.

```
[39] print(classification_report(ytest, [round(i[0]) for i in model.predict(Xtest)]))
```

281/281	[=====]	- 7s	23ms/step		
	precision	recall	f1-score	support	
	0.0	0.99	0.99	0.99	4247
	1.0	1.00	0.99	0.99	4733
	accuracy			0.99	8980
	macro avg	0.99	0.99	0.99	8980
	weighted avg	0.99	0.99	0.99	8980

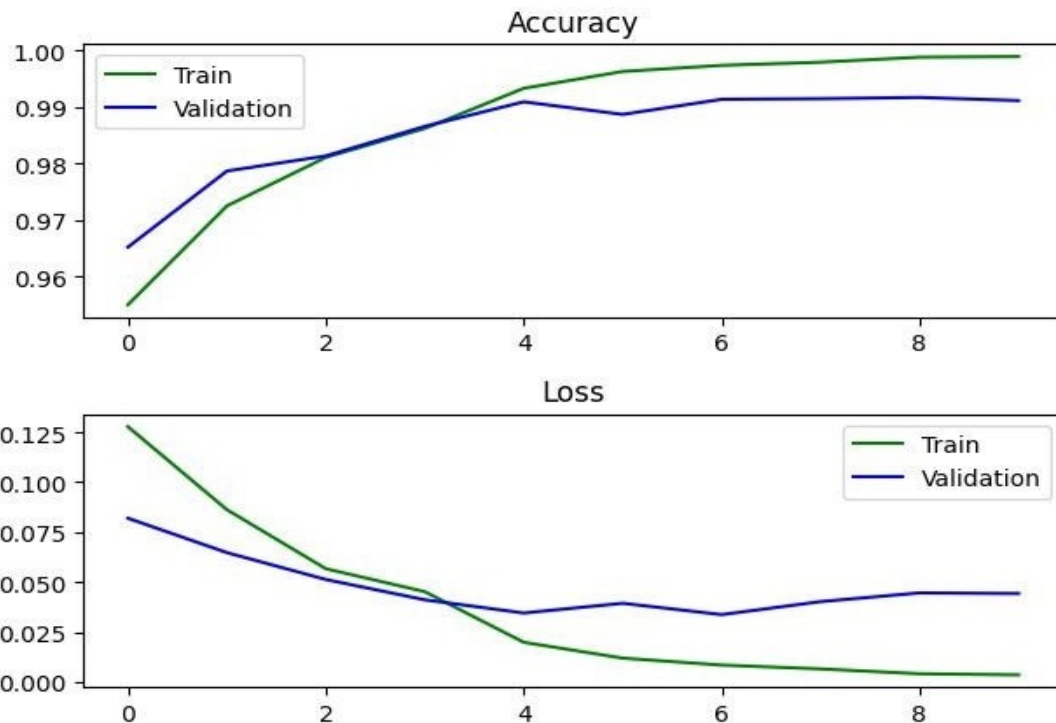
```
[40] print(accuracy_score(ytest, [round(i[0]) for i in model.predict(Xtest)]))
```

281/281	[=====]	- 7s	26ms/step
0.9910913140311804			

RESULT

The LSTM model as been designed to balance the need for sufficient complexity to capture the nuances of natural language with the need for simplicity to avoid overfitting.

If the model overfits on your training data, it will cause the model to examine fake information details and produce the result.



REFERENCES

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THANK YOU

