**Fake News Classification Problem**

The main aim of this problem statement is to classify the news article into two classes, Fake and Non Fake. It is a binary classification problem which can be solved using Machine learning as well as Deep learning algorithm.

Read the train data provided on the kaggle platform. There are multiple cleaning and pre-processing steps are required as this is a textual data and it is quite difficult to deal with unstructured data.

First of all, we’ll check for the null and missing values from the dataset. After that we need to pre-process the textual data using NLP techniques like removing special characters, stemming of word, stop words, lower case of the words, etc.

After this process we need to convert word to one hot encoding. We can use different size of dictionaries for initialization. There is no thumb rule for defining the vocabulary size. Padding is required for limiting the length of the sentences.

**Model Used**

I have used LSTM Model as it is capable of dealing with long term memories can be referred as context in the NLP and also helps in dealing with Vanishing gradient problem with using Relu Activation function as its output is max(0, x). Also used dropout layer in the model to avoid overfitting problem.