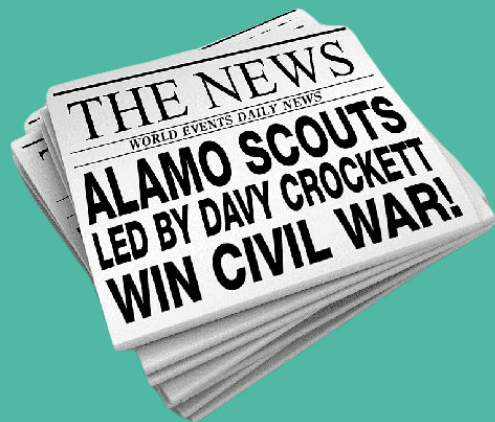# News Headline Generator (Abstractive)

Capstone Project

AVI PATEL

Objective

This project seeks to create a model that creates one line abstractive summary of a given news article. This model will help to get a quick idea on what the article is all about without having to read all whole news.

Business Problem

News/Media/Blogging Companies always wants a catchy headlines for the articles they post so that they can get maximum number of clicks. A machine learning algorithm can be used to create a headline based on the context of the article.

The Data

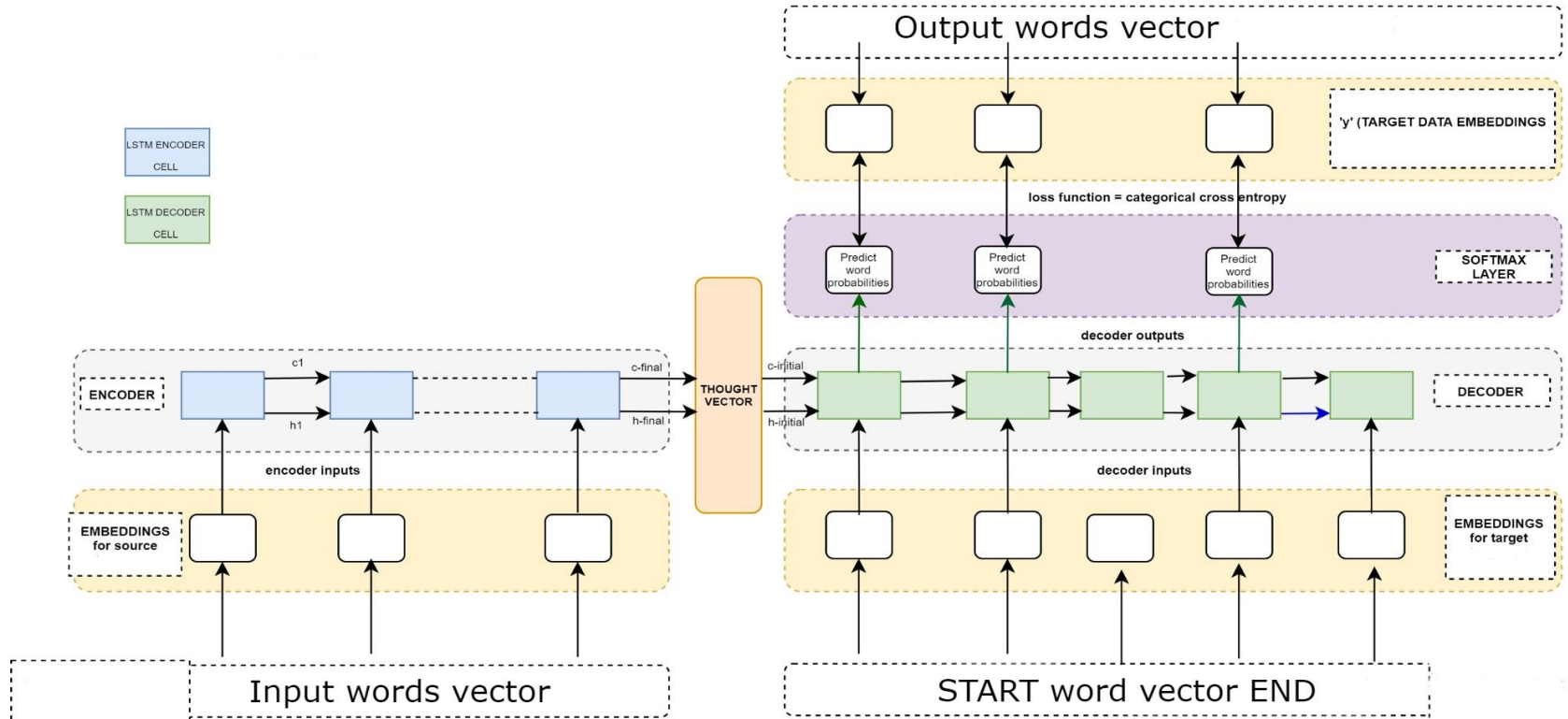The data was collected from various sources like Kaggle, Github.

Because of the Computational resource limitation the model was trained on 100K News Article having with input length of 100 words and out length of 16 words.

Steps Involved In Cleaning The Text Data

- Removing White Spaces, Digits and HTML Tags
- Normalizing case
- Contraction to Expansion
- Removing Punctuation and Special Characters
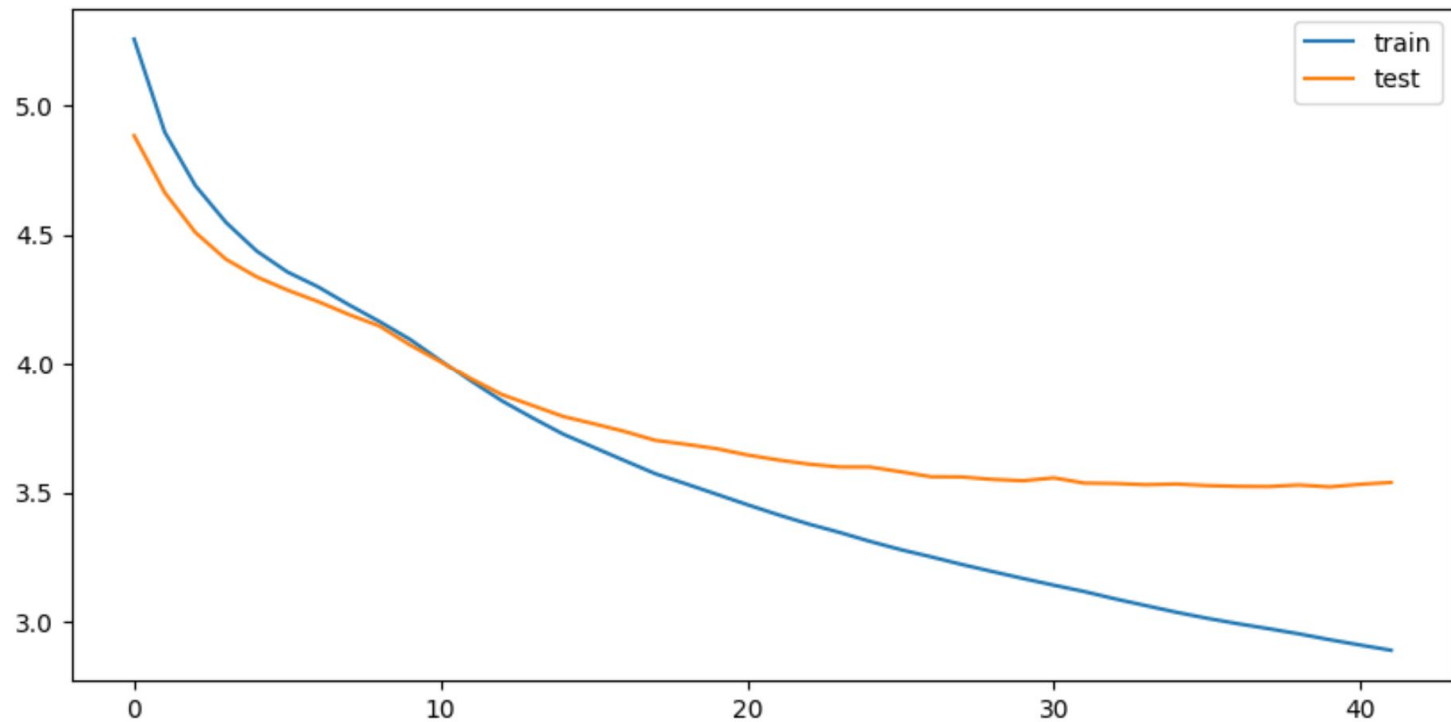- Removing Accented Characters
- Lemmatizing

About Modeling Technique

Seq2Seq LSTM Model was used to create a Summarizer

Train vs Test Loss

TRAIN LOSS = 2.89 | TEST LOSS = 3.53

Results

Using Seq2Seq LSTM Encoder Decoder algorithm

ROUGE (1) SCORE : 0.2254

ROUGE (L) SCORE : 0.2110

SPARSE CATEGORICAL ACCURACY : 55% *(TRAIN)* | 50% *(TEST)*

Next Steps

- **Adding Attention Layer.**
- **Using Bi-directional LSTM.**
- **Using pre-trained Embeddings.**

THANK YOU

 https://github.com/avithekkc