

Project Name  
Project ID:22INTC42  
Review -IV

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## Sentiment Analysis using RNN

To check the sentiment of the people using Dashboard of Analytics360 as we will soon be implementing this and it will give us the idea how is our implementation of Dashboards and new functionalities.

I will be implementing this for the feedback of our systems as our team is building so many dashboards and there are more dashboards are in progress we want a system will be giving us the data like what people like and what they want should be improved.

# Literature Survey

Serial Number	Project	Algorithm Used	Year
1	Expressively vulgar: The socio-dynamics of vulgarity and its effects on sentiment analysis in social media	Bi-LSTM + Masking + Token Insertion + Concatenation	2009
2	Multilingual Twitter Sentiment Classification: The Role of Human Annotators	NaiveBayes	2016
3	Toward multi-label sentiment analysis: a transfer learning based approach	XLNet	2020
4	Deep Learning for Hate Speech Detection in Tweets	LSTM+GloVe+GBDT	2017
5	UBham: Lexical Resources and Dependency Parsing for Aspect-Based Sentiment Analysis	Linear SVM	2014

# Architectural Design for Proposed System



- EDA
  - Fetching data from DB
  - Tokenization of words
  - Visualizing the data how will they look
- Model Building
  - RNN architect
  - Checking the sentiment of sentence
- Accuracy
  - Score
  - Check score on test data

# Dataset /database specification

This dataset has been taken from a famous movie based platform IMDB and downloaded from Kaggle. The data is in txt format. The data is in two files. One file contains all the reviews(reviews.txt) and other with the label of reviews(labels.txt). Let's have a look at the data how it looks after importing to in the notebook after connecting them to form the dataset

```
labels.txt      :      reviews.txt

NEGATIVE       :      this movie is terrible but it has some good effects . ...
POSITIVE       :      i got a good laugh reading all the idiotic comments for this film  br  br  a...
NEGATIVE       :      comment this movie is impossible . is terrible very improbable bad interpretat...
POSITIVE       :      this film was shot on location in gerard gardens in liverpool and was the uk s...
NEGATIVE       :      what ever happened to one of the most innovative and brilliant storytellers of o...
POSITIVE       :      this was a must see documentary for me when i missed the opportunity in      so ...
NEGATIVE       :      wow i m shocked to learn that it s a small world and that we are all intercon...
```

# Methodology \ Techniques \ Algorithms used in the Project Work

Many to one type Architecture is one of 4 type of RNN which is used in Sentiment Classification as using several input to give a output.

- This is the diagram of a RNN structure where will remember the previous input and then gives the output.
- All the NLP based models uses RNN because of their memory as they are of different types RNN, LSTM, GRU.

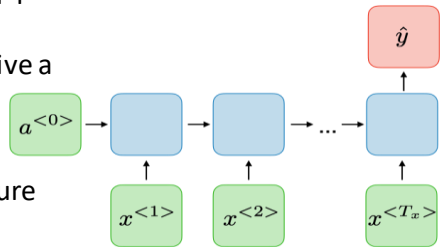


Figure: RNN Diagram which will show how a data will inside the Model

# Methodology\Techniques\Algorithms used in the Project Work

- I am making a RNN based sentiment analysis which will be helpful in building a review system.
- This will be very helpful for us when we will be implementing this for our dashboards.
- This will be deployed on tableau servers for working based model and after deployment we will put triggers on tableau dashboards.
- This system will be so designed that we can make many changes to the parameters.



# Methodology\Techniques\Algorithms used in the Project Work

## 1. Python

:- Python is an interpreted high-level general-purpose programming language. Its design philosophy emphasizes code readability with its use of significant indentation. Its language constructs as well as its object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.

## 2. Deep Learning(Neural Network)

:- Deep learning is part of a broader family of machine learning methods based on artificial neural networks with representation learning. It is used to create artificial neural network to be specific it will be RNN(recurrent neural network)

## 3. NLP(Natural Language Processing)

:- Natural language processing is a subfield of linguistics, computer science, and artificial intelligence concerned with the interactions between computers and human language, in particular how to program computers to process and analyze large amounts of natural language data.

# Code Implementation

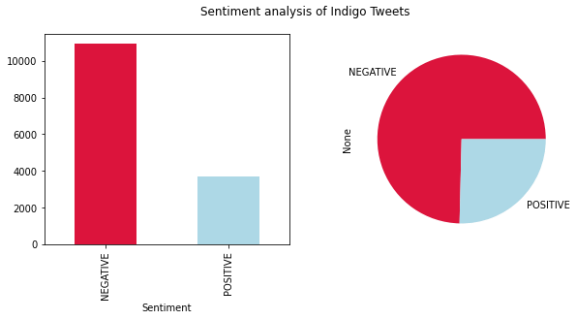
The Partial Implementation of this project is implemented in the virtual desktop environment and has been uploaded on the GitHub. Have a look at the repository and check the partial implementation.

Click on the name  [Sentiment Analysis](#)

If the link take you to main branch of repository please change the branch to the development branch.

# Expected Outcomes

The project will look just like this after we make this system. A Dashboard will also be created in Tableau will be having an internal level details like who gave reviews what was review and what changes are there in the review. That would clearly state their email their Position and even their Employee ID's.



# References



[Expressively vulgar: The socio-dynamics of vulgarity and its effects on sentiment analysis in social media](#)  
[Department of Mathematics, †Department of Linguistics, The University of Texas at Austin](#)



[Multilingual Twitter Sentiment Classification: The Role of Human Annotators](#) , [Department of Knowledge Technologies, Jožef Stefan Institute, Ljubljana, Slovenia](#)



[\*\*Toward multi-label sentiment analysis: a transfer learning based approach,\*\*](#)  
[\*Journal of Big Data\*](#)

# References



[IIIT-Hyderabad India , Microsoft India  
Deep Learning for Hate Speech Detection in  
Tweets](#)



[Aspect-based Sentiment Analysis using  
Dependency Parsing](#)