

# **TWITTER BOT FOR SUMMARIZING ARTICLES BASED ON TWITTER TRENDS**

**A Project Report**

*Submitted by*

**MS. SAMREEN REYAZ**

**MR. DISHANT BHATT**

**MR. GABRIEL FRANCIS**

*Under the guidance of*

**PROF. PANKTI DOSHI**

*in partial fulfilment for the award of the degree of*

**BACHELOR OF TECHNOLOGY**

**IN COMPUTER SCIENCE**

**At**



**MUKESH PATEL SCHOOL OF TECHNOLOGY,  
MANAGEMENT AND ENGINEERING, NMIMS, MUMBAI**

**October 2019**

## DECLARATION

We, Samreen Reyaz, Dishant Bhatt and Gabriel Francis, Roll Nos. B005, B013 and B027 B.Tech (Computer Engineering), VIII semester understand that plagiarism is defined as anyone or combination of the following:

1. Un-credited verbatim copying of individual sentences, paragraphs or illustration (such as graphs, diagrams, etc.) from any source, published or unpublished, including the internet.
2. Un-credited improper paraphrasing of pages paragraphs (changing a few words phrases, or rearranging the original sentence order)
3. Credited verbatim copying of a major portion of a paper (or thesis chapter) without clear delineation of who did wrote what. (Source: IEEE, The institute, Dec. 2004)
4. I have made sure that all the ideas, expressions, graphs, diagrams, etc., that are not a result of my work, are properly credited. Long phrases or sentences that had to be used verbatim from published literature have been clearly identified using quotation marks.
5. I affirm that no portion of my work can be considered as plagiarism and I take full responsibility if such a complaint occurs. I understand fully well that the guide of the seminar/ project report may not be in a position to check for the possibility of such incidences of plagiarism in this body of work.

Signature of the Student:

Name:	Samreen Reyaz	Dishant Bhatt	Gabriel Francis
Roll No.:	B005	B013	B027
Place:	Mumbai		
Date:	12 <sup>th</sup> October 2019		

# CERTIFICATE

This is to certify that the project entitled “Twitter Bot For Summarizing Articles Based On Twitter Trends” is the bonafide work carried out by Samreen Reyaz, Dishant Bhatt and Gabriel Francis of B.Tech (Computer Engineering), MPSTME (NMIMS), Mumbai, during the VIII semester of the academic year 2019-2020, in partial fulfillment of the requirements for the award of the Degree of Bachelors of Engineering as per the norms prescribed by NMIMS. The project work has been assessed and found to be satisfactory.

---

Prof. Pankti Doshi

Internal Mentor

---

Examiner 1

---

Examiner 2

---

Dean

Dr. N. T. Rao

# TABLE OF CONTENTS

CHAPTER NO.	TITLE	PAGE NO.
	LIST OF FIGURES	i
	LIST OF TABLES	ii
	LIST OF EQUATIONS	iii
	ABBREVIATIONS	iv
	ABSTRACT	v
1	INTRODUCTION	1
	1.1 Background	1
	1.2 Project Overview	2
	1.3 What is Text Summarization?	2
	1.4 Motivation of Problem	3
	1.5 Problem Statement	3
	1.6 Scope of the Problem	4
	1.7 Assumptions and Limitations	4
	1.8 Organization of Report	4
2	REVIEW OF LITERATURE	5
	2.1 Approaches to Text Summarization	5
	2.2 Extractive Text Summarization	6
	2.3.1 Word Frequency	7
	2.3.2 Term Frequency – Inverse Document Frequency	7
	2.3.3 Machine Learning	8
	2.3.4 Neural Networks	9
	2.3 Evaluation of Summarization	10
	2.3.1 Bilingual Evaluation Understudy (BLEU)	11
	2.3.1 Recall-Oriented Understudy for Gisting Evaluation (ROUGE)	13
	2.4 Twitter Trends	14
	2.4.1 Fetching Twitter Trends	14

	2.4.2	Twitter API	14
	2.4.3	Twitter Web App	14
	2.4.4	Posting New Tweets	15
	2.4.5	WOEID	15
	2.4.6	Trend Manipulation	15
	2.4.7	Drawbacks	15
	2.5	Web Scraping	16
	2.5.1	BeautifulSoup	16
	2.5.2	Selenium	16
3		PROPOSED SOLUTION	
	3.1	Selection of Summarization and Evaluation	
		Algorithms	17
	3.2	Components	18
	3.1.1	Twitter Interface	18
	3.1.2	Web Scraper	19
	3.1.3	Text Modifier	20
	3.3	General Flow of Execution	21
4		IMPLEMENTATION	23
	4.1	Summarization – Word Frequency	23
	4.2	Summarization – Term Frequency – Inverse	
		Document Frequency	24
	4.3	Twitter – Fetching and Manipulating Trends	25
	4.4	Twitter – Tweeting Summary	25
	4.5	Web Scraping – BeautifulSoup and Selenium	26
	4.5.1	BBC	26
	4.5.2	Al-Jazeera	26
		RESULTS AND DISCUSSION	28
		CONCLUSION AND FUTURE SCOPE	33
		REFERENCES	34
		APPENDIX	35