Twitter Sentiment Analysis Using Machine Learning

A PROJECT REPORT

Submittedby,

S.Saraswathi Sree Moulya-20211CSE0151
R.Reddy Ruchitha - 20211CSE0123
D.Ganesh Reddy - 20211CSE0130
G.Siva Sai Krishna - 20211CSE0012

Under the guidance of,

Dr. Taranath N L, Associate Professor, School of CSE

In partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

PRESIDENCY UNIVERSITY

BENGALURU

MARCH 2025

PRESIDENCYUNIVERSITY

SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **"Twitter Sentiment Analysis Using Machine Learning And Deep Learning"** being submitted by S. Saraswathi Sree Moulya , Rayapu Reddy Ruchitha, Gandla Siva Sai Krishna, Depatla Ganesh Reddy bearing roll numbers: 20211CSE0151, 20211CSE0123, 20211CSE0012, 20211CSE0130 in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.

Dr. Taranath N L
Associate Professor

School of CSE&IS
Presidency University

Dr. Asif Mohammed H B
Prof & HOD

School of CSE&IS
PresidencyUniversity

Dr. MYDHILINAIR
Associate Dean
School of CSE
Presidency University

Dr. SAMEERUDDIN KHAN
Pro-VC School of Engineering
Dean -School of CSE&IS
Presidency University

PRESIDENCYUNIVERSITY

SCHOOL OF COMPUTER SCIENCE ENGINEERING

DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **Twitter Sentiment Analysis Using Machine Learning And Deep Learning** In partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**,is a record of our own investigations carried under the guidance of **Dr.Taranath N L, Assistant Professor, School of Computer Science Engineering, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

S.SaraswathiSreeMoulya	20211CSE0151
R.ReddyRuchitha	20211CSE0123
D.GaneshReddy	20211CSE0130
G.SivaSaiKrishna	20211CSE0012

ABSTRACT

In recent times social media platforms serve as the main source for communication, especially on public relations or on any economical crisis. During such situations, many organizations depend on tweet conversations on X platform (earlier Twitter), to know the public sentiment and reactions, and provide responsive strategies. This focuses on using machine learning and deep learning techniques for analyzing the tweet conversations on PR. The novelty in this research is to use the power of natural language processing (NLP) techniques, to analyze every word and its occurrence to know the semantic meaning and understand the sentiment of that conversation. The proposed methodology begins with preprocessing the conversation data, building deep learning models namely LSTM, BiLSTM and machine learning models like logistic regression, Naive Bayes, SVM and XGBoost, which is followed by evaluation through certain metrics. This study helps in providing automated tools for improving the organizations to know the public sentiment during crisis and respond as fast as possible with effective strategies to address the public needs.

Keywords— Crisis management, Natural Language Processing (NLP), Sentiment analysis, Machine learning and deep learning.