Impact of COVID-19 on social media activities in mental health-related subreddits

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*Abstract*—Usage of social media increased throughout the novel virus covid era and individuals are more likely to express

Keywords—Big Data, Health Data Analytics, Natural Language Processing, Large Language Model, Topic Modeling, Time Series Analysis, Social Media, Text Mining

# Introduction

After the pandemic hits world widely, it is confirmed that people tend to spend more time on social media platforms from various researches. However, addiction to social media can lead to mental illness where it allows people to express an individual's opinions without any restrictions. These mental issues are directly associated with social media platforms where individuals think more comfortably than communicating face to face.

This study aims to investigate the shift of post trends and post engagements between pre and post covid with the dataset from nine different mental health-related subreddits – Depression, Anxiety, ADHD, Bipolar, Schizophrenia, PTSD, Eating Disorder, Brain Fog, Suicide Watch.

In the light of the above discussion, the following are the research challenges we address in this paper:

* Does COVID impact post trends and engagements within mental health-related subreddits?

# related works

Previous works on mental illness papers

## Ethical considerations

# Data

## Data

The dataset in this research is a collection of reddit posts specifically from mental health-related subreddits.

## Preprocessing

# methodologies and models

## Text Classification using Large Language Model BERT

Explain why bert and bert model structure

## Text Classification using DistillBERT

Explain why distillbert, and distillbert structure

## Text Classification using BERTopic

Explain why BERTopic

## Time Series Analysis using Prophet

Explain prophet

# results

## Results of Text Classifications

## Results of Time Series Analysis

# conclusions and future work

In this research, we have investigated

##### Acknowledgment

This work has been

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