Sentiment Analysis of COVID-19 Tweets – Visualization Dashboard

IBM Hack Challenge 2020

Problem Statement:

The sentiment analysis of Indians after the extension of lockdown announcements to be analyzed with the relevant #tags on twitter and build a predictive analytics model to understand the behavior of people if the lockdown is further extended.

Also develop a dashboard with visualization of people reaction to the govt announcements on lockdown extension

1. Introduction

Our **Sentiment Analysis model** facilitates a better understanding of the nation's reaction towards this global pandemic. The dashboard generated will help the government and other institutions to get a hold of the current situation. Also, our predictive analysis of relevant #tags on Twitter will boost up businesses amidst the nationwide lockdown.

➔ **Purpose**

Our model aims to provide a better understanding of the public sentiments regarding the Covid-19 suitation

➔ **Also**

Provide a brief visualisation about their thoughts which can help the government to predict their reactions on the various laws adopted during the lockdown period.

➔ **Aim**

Our model aims to foster a positive attitude among the public regarding COVID-19 and help organisations respond in time.

The Covid-19 endangers our physical health indeed, but alongside, social distancing also threatens our emotional stability

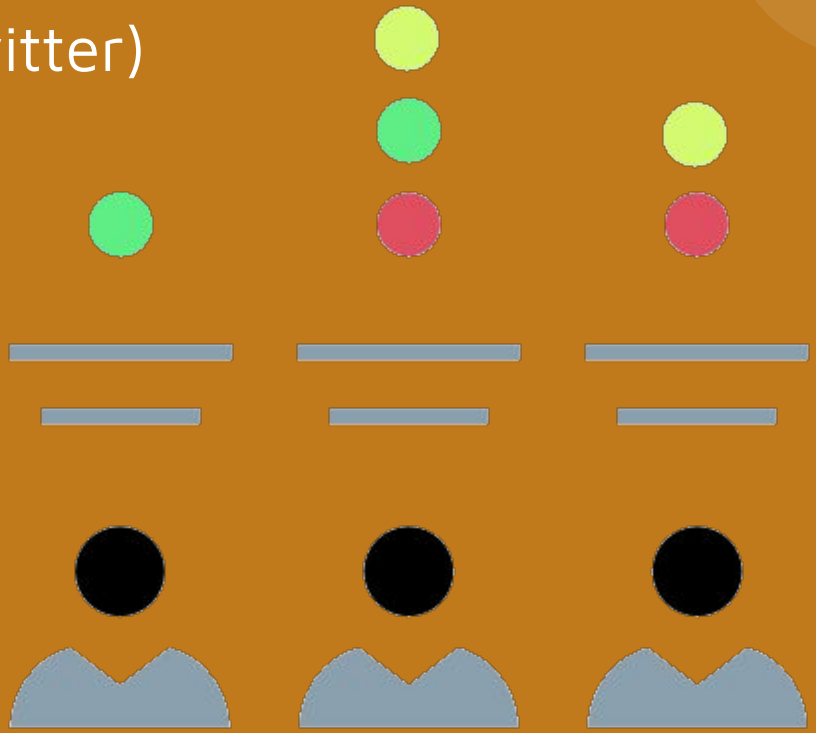
Existing Problem:

Our government is facing a problem to get the nation's reaction towards the global pandemic

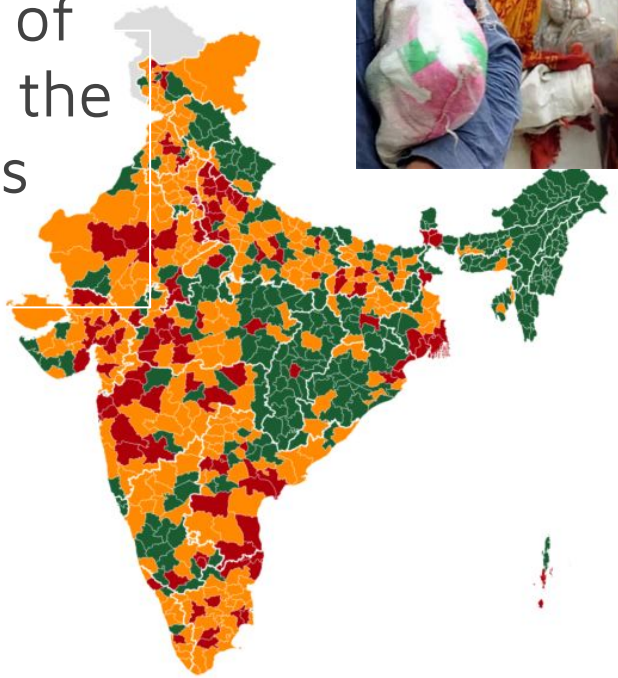
Our government is facing a problem to get the nation's reaction towards the global pandemic and their views on the various actions adopted in extension of the lockdown which has made things more complicated as they are not able to make a decision in public welfare.

Solution! Our Sentiment Analysis Model.

(With a little help from Twitter)



Our Sentiment Analysis of **COVID-19** tweets using the popular **Indian** hashtags can help to solve the government problems.



Proposed Solution

We are showing the people's reactions on this pandemic situation using various graphs, plots and models.

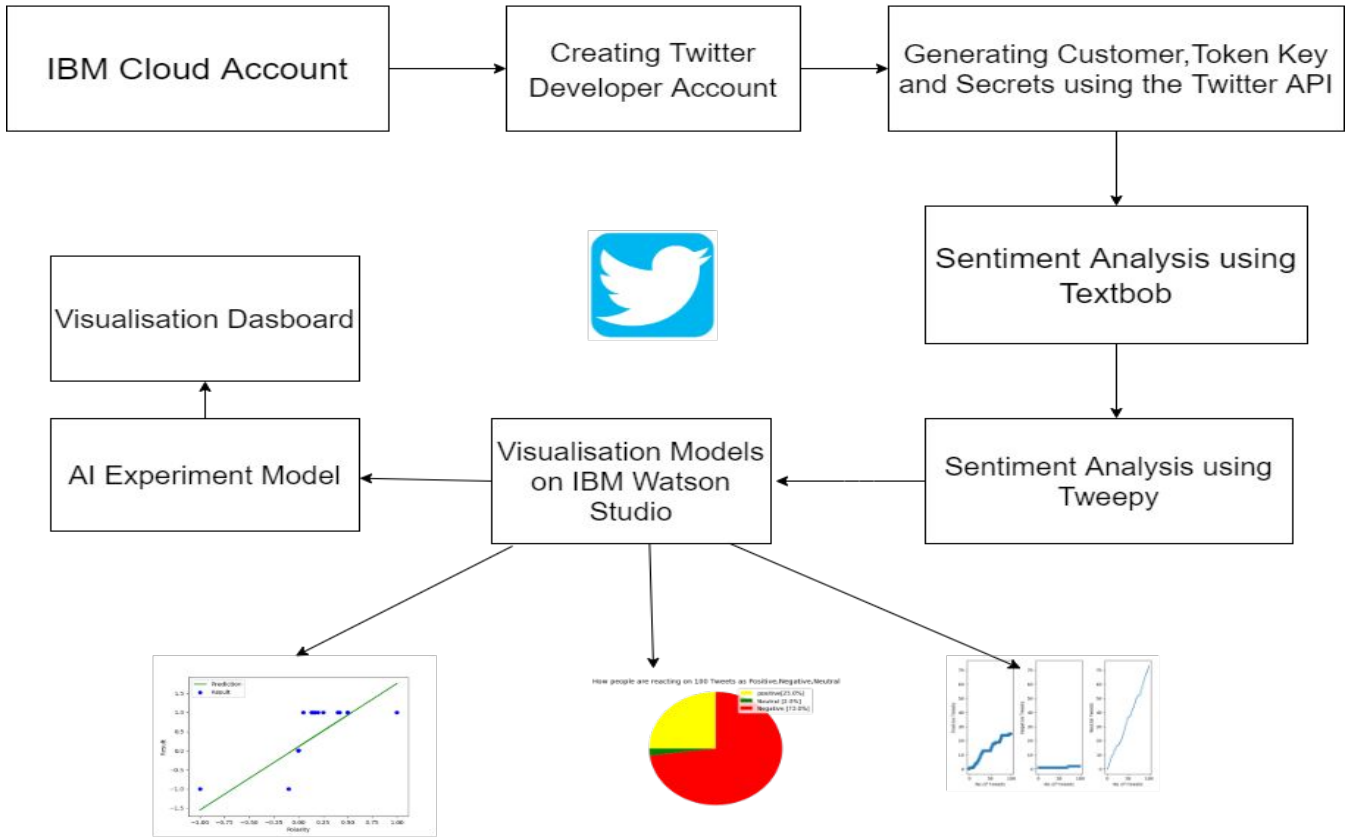
- **Visualization**
  of data on our dashboard will dynamically represents the public sentiments and help us be more specific in understanding the trends.

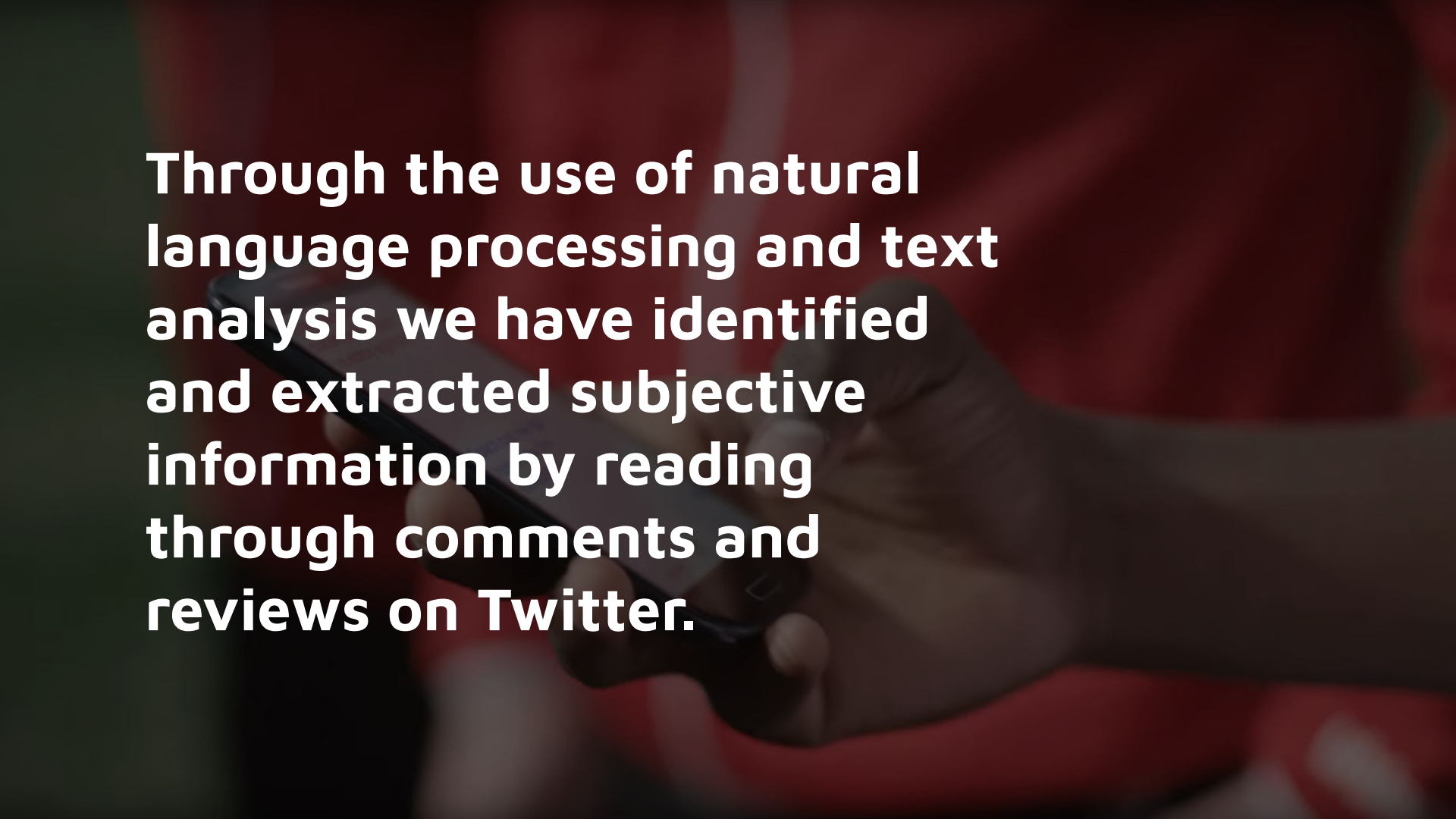
- **Twitter**
  hosts abundant user tweets, which closely reflect the public's reactions towards this pandemic.

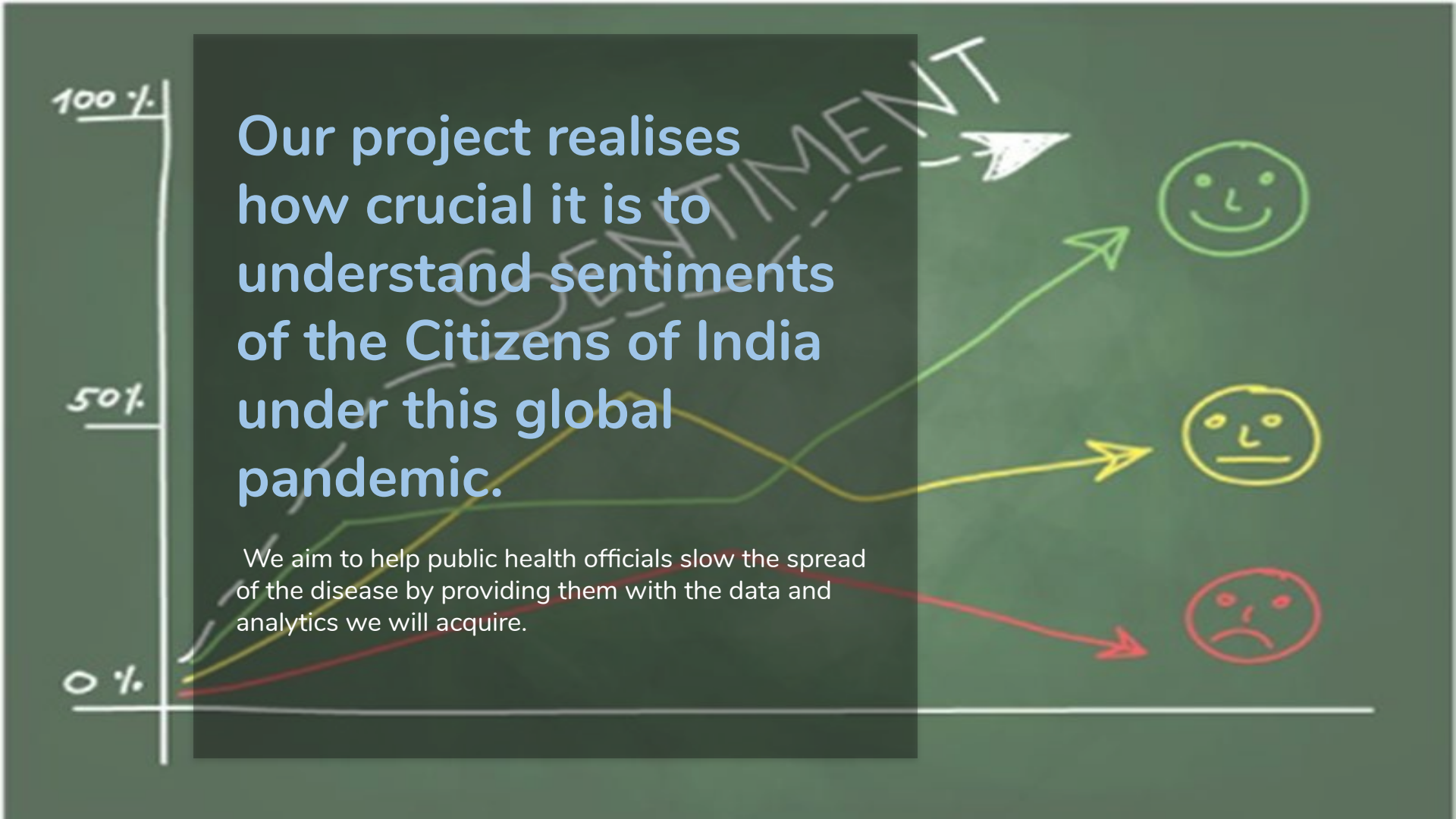
Technical Tools

We used *Python* tools like **tweepy** and **textblob** to fetch the tweets from **Twitter Developer Account.**

Sentiment Analysis of Twitter




Through the use of natural language processing and text analysis we have identified and extracted subjective information by reading through comments and reviews on Twitter.



Our project realises how crucial it is to understand sentiments of the Citizens of India under this global pandemic.

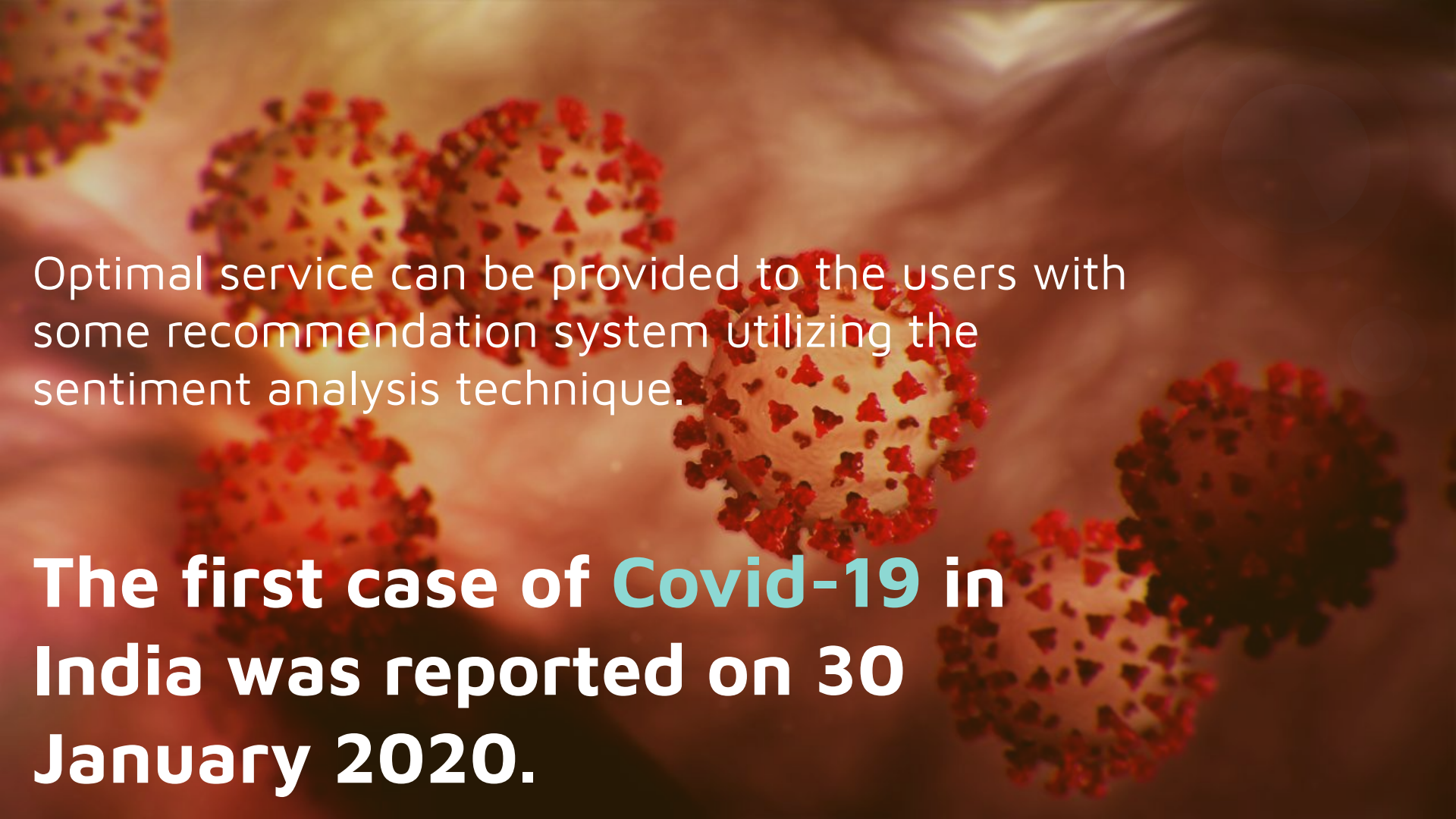
We aim to help public health officials slow the spread of the disease by providing them with the data and analytics we will acquire.

This model provides you with a perfect slice and dice of a high volume of complex live streaming data to create **interactive analytics** which allows you to instantly explore the desired **information** in the form of **live visualization dashboards** covering the detailed analysis of the entire data-set.

Dashboards continuously fetch the new data to update its graphs and summaries.

Advantages

- This model will **help** the government to understand the sentiments of people.
- This will give a **visualisation** of public sentiments on the extended lockdown.
- This can create **awareness** in government about the public interest so that they can take **decisions** in their favour.
- This can create a **good impact** on our economy as it will highlight the all the bad points of government in front of everyone.

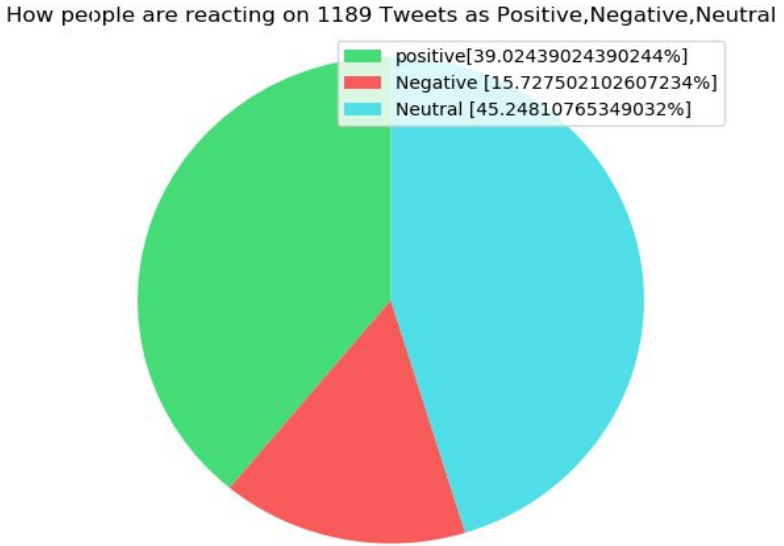


Optimal service can be provided to the users with some recommendation system utilizing the sentiment analysis technique.

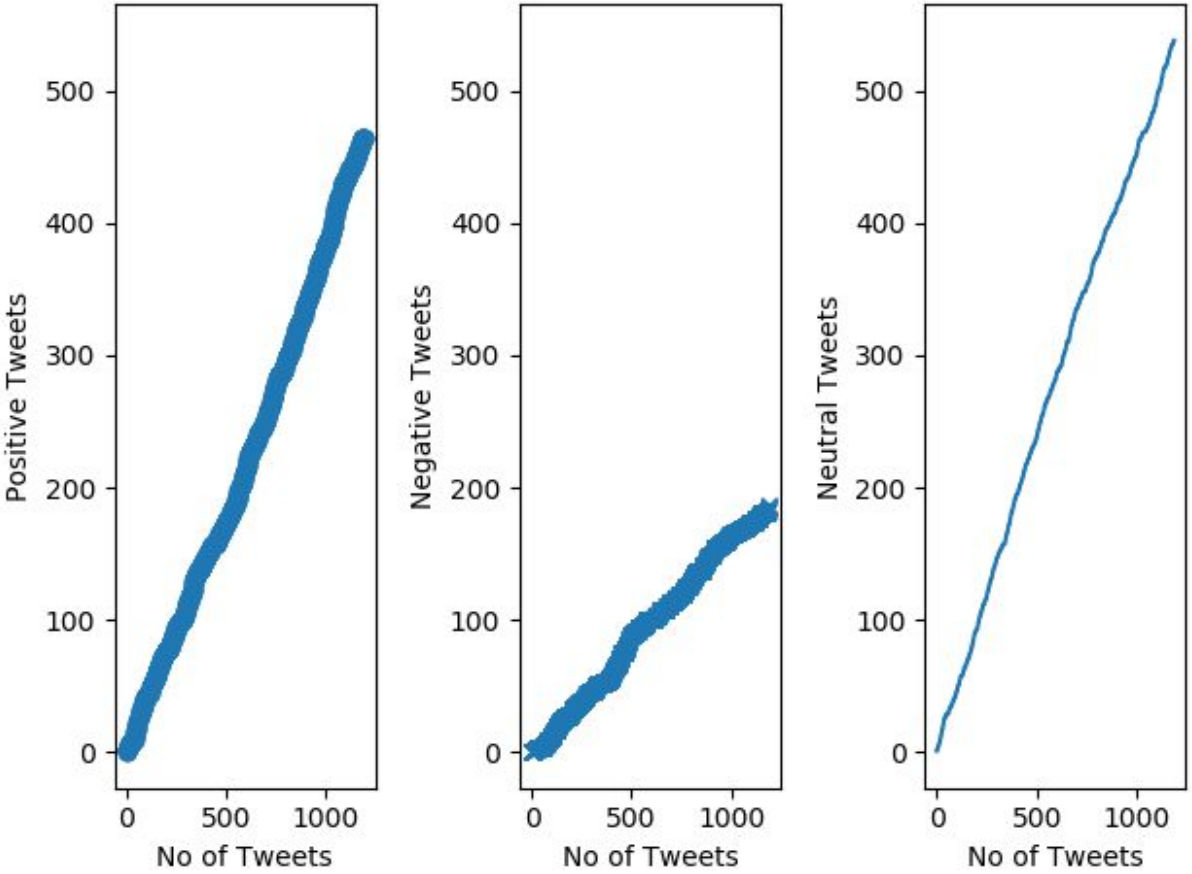
The first case of Covid-19 in India was reported on 30 January 2020.

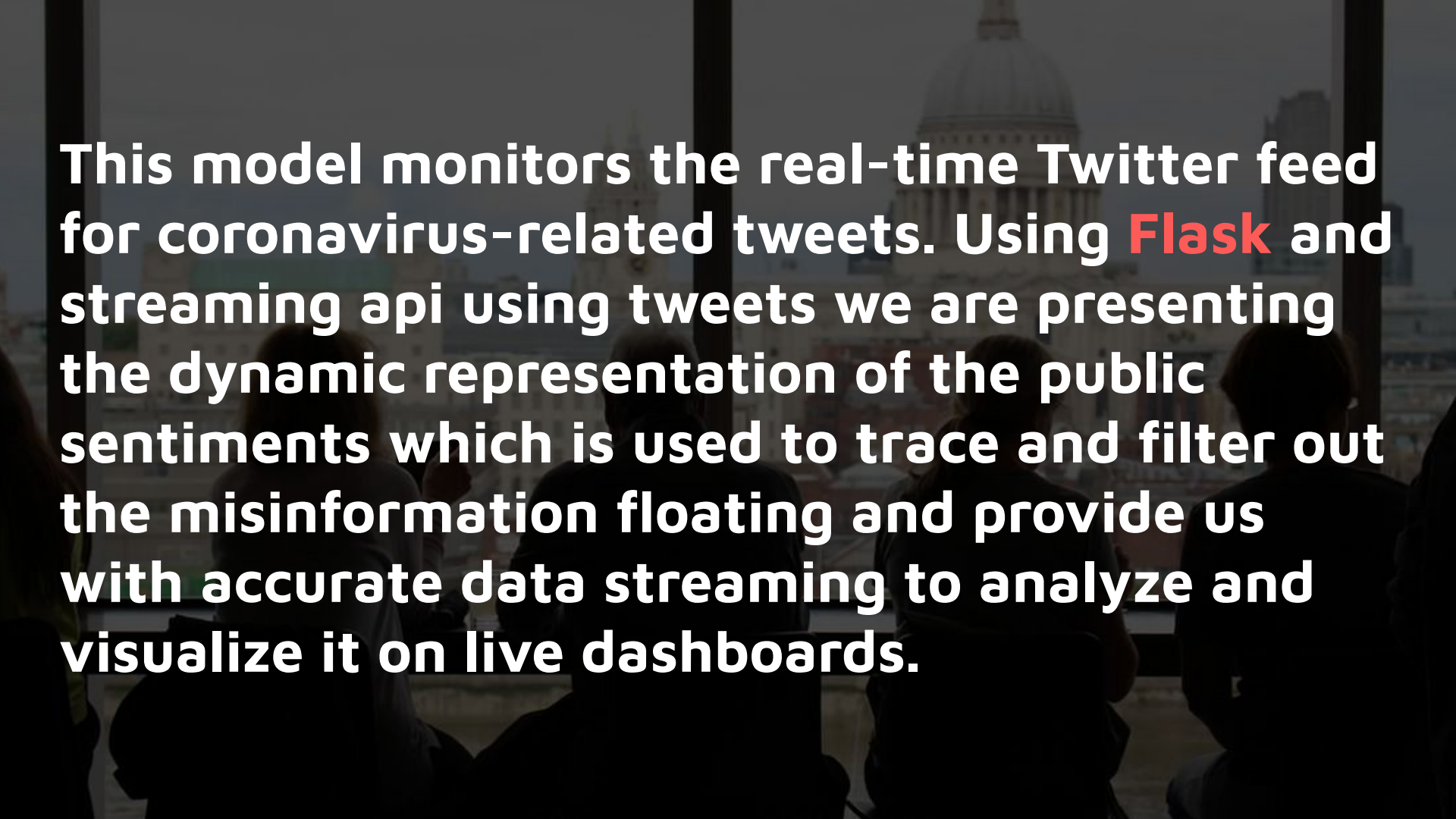
Our model's analysis will give a foresight by providing an indication of how well prepared people are for the coming changes by categorising tweets on the basis of

POSITIVE, NEGATIVE AND **NEUTRAL SENTIMENTS**.



With the help of the libraries like matplotlib, numpy and pandas we have developed subplots




This model monitors the real-time Twitter feed for coronavirus-related tweets. Using Flask and streaming api using tweets we are presenting the dynamic representation of the public sentiments which is used to trace and filter out the misinformation floating and provide us with accurate data streaming to analyze and visualize it on live dashboards.

Our model gives a clear understanding to public sentiments through high volume of complex live streaming data to create analytics which allows you to instantly explore the desired statistics in form of live visualization dashboards covering the detailed analysis of the entire data set. This model monitors the real-time Twitter feed for coronavirus-related tweets.

The latest ML & AI heatmaps can be used to trace and filter out the misinformation floating and provide us with accurate data streaming on live dashboards. This information can help service providers to grasp the response of the users on their services, and manufacturers can use it for marketing research.

Optimal service can be provided to the users with some recommendation system utilizing the sentiment analysis technique. It can be used in future by all the organisations as a feedback from there users to know about there requirements and their reactions of the various services so that organisation can work in fulfilling all the needs which have a beneficial impact on economic growth.

Thank You