Sentiment Analysis Of COVID-19 Tweets

- **Problem Description :**

Sentiment Analysis is the process of determining whether a piece of writing is positive, negative or neutral. A sentiment analysis system for text analysis combines natural language processing (NLP) and machine learning techniques to assign weighted sentiment scores to the entities, topics, themes and categories within a sentence or phrase.

The Sentiment Analysis of COVID-19 Tweets reveals the sentiments 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. The prediction of the sentiment will be based on the words used by the twitter user.

India is one of the most diverse nations in the world having various cultures. So this project revolves around revealing people's reaction on extension of lockdown by segregating them on the basis of the state they live in.

- **Project Scope, Schedule, Team & Deliverables:**

Project Scope :

An important part of information-gathering behaviour has always been to find out what other people think and whether they have favourable (positive) or unfavourable (negative) opinions about the subject.We investigate the problem of the sentiments of people regarding the epidemic currency ongoing(covid-19) and even want to analyze the sentiments of people living in different parts of country whether they favour(like) or negate(dislike) the decision of extension of lockdown.
This project revolves around determining the polarity of sentiments by taking the covid-19 tweets to train the model and figuring out the people’s reaction who are living in different parts of India.

Project Summary :

- This project is to build a model while considering covid-19 tweets.
- The model trained in this project will be able to predict the polarity of sentiment of the tweet user based on the words or #tags they used in their covid-19 tweets .
- With the help of this project any country is able to predict the sentiment of their countrymen regarding the situations they face during the pandemic and then accordingly take measures towards the extension of lockdown.
- As we can see there is a current on-going trade-off between the economic and financial sector of the country versus the health sector of the country.Hence, this sentiment analysis helps the country to make correct decision regarding extension of lockdown by considering the impact it will make on different sectors of the country.

Project Requirements :

- Download the Covid-19 tweets dataset.
- Analyze it and clean the dataset by handling missing values.
- Create an IBM account.
- Create the appropriate cloud and node red services(for deployment).
- Train the NLP model on different algorithms.
- Check for the best one and finalize that algorithm to train our model.
- Build Node red flow for creation of Covid-19 dashboard(web app)
- Create the scoring end point for integrating our model to node red.

Functional Requirements :

- Provide the model with the tweets to learn from them.
- The model will return the output as the positive or negative sentiment figured out from the tweet.

Technical Requirements:

- The covid-19 dashboard must be integrated with the backend trained NLP model.
- The model before training must be given with clean dataset (done by preprocessing)

Software Requirements:

- Python IDE
- Excel

- IBM Cloud Account
- IBM Watson Studio
- Node Red