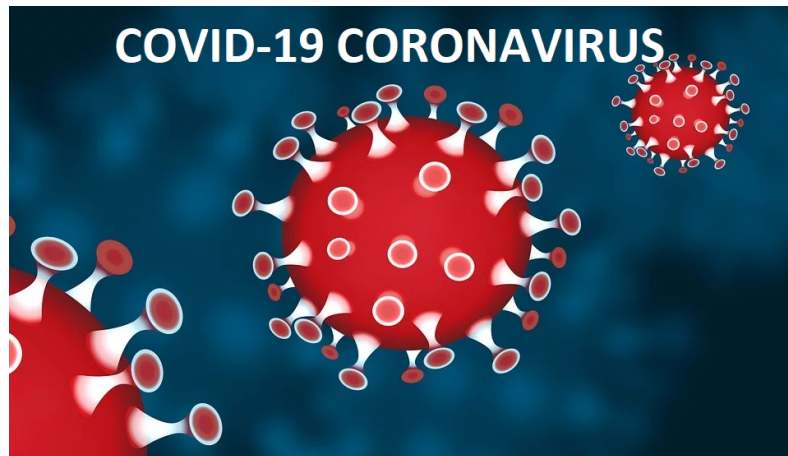


PROJECT REPORT ON:-

Predicting The Growth And Trend of Covid-19 Pandemic:

This study applies an improved mathematical model to analyze and predict the growth of the epidemic. An ML-based improved model has been applied to predict the potential threat of COVID-19 in countries worldwide. We show that using iterative weighting for fitting Generalized Inverse Weibull distribution, a better fit can be obtained to develop a prediction framework.



Problem Statement:

Given the dataset containing the information of particular Country/Region's number of Confirmed, Death, Recovered and Active cases. Predict the number of Confirmed, Death and Recovered Cases every day across the globe.

COVID-19 dataset:

Coronavirus disease 2019 (COVID-19) time series listing confirmed cases, reported deaths and reported recoveries. Data is disaggregated by country (and sometimes subregion). Coronavirus disease (COVID-19) is caused by the Severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) and has had a worldwide effect. On March 11 2020, the World Health Organization (WHO) declared it a pandemic, pointing to the over 118,000 cases of the Coronavirus illness in over 110 countries and territories around the world at the time.

This dataset includes time series data tracking the number of people affected by COVID-19 worldwide, including:

- confirmed tested cases of Coronavirus infection

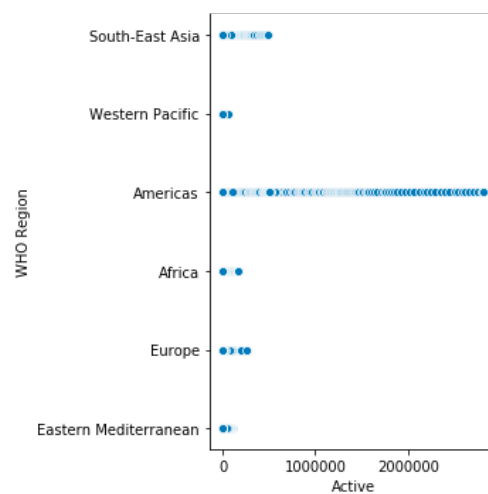
- the number of people who have reportedly died while sick with Coronavirus
- the number of people who have reportedly recovered from it

Salient Features:

1. Several visualizations of a time-series dataset of covid19 cases.
2. Case Study of the World and few countries, including India.
3. Forecast of a number of corona cases in the future.

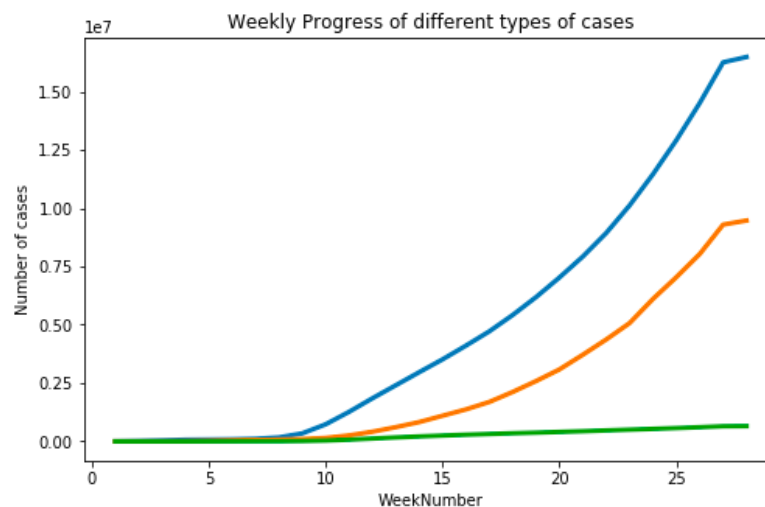
Data Visualization:

1. Scatter Plot- To find out the Active cases in WHO region as given in the dataset.



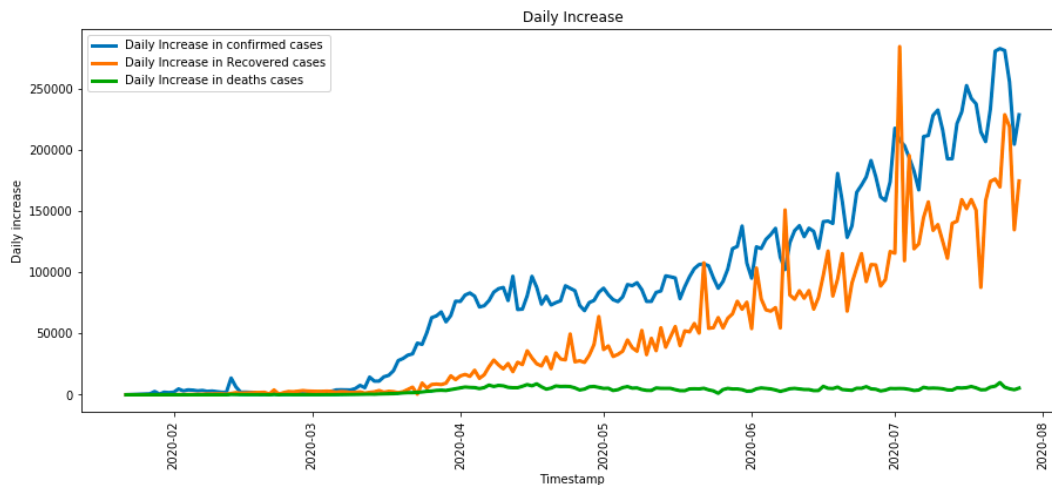
From the above graph, we can reason that most of the active cases are in Americas

2. Categorical line graph-To find the weekly progress of different types of cases.



From the above Graph, we can see that as the week number increases the number of cases increases.

3. Count plot- To find out the daily increase in the number of confirmed ,deaths and recovered cases.



From the above graph, we can reason that there is a daily increase in number of confirmed and recovered cases whereas the death cases remain quite stable.

Why Time Series Analysis?

Primarily time series analysis is used for Descriptive, Forecasting, Intervention analysis & Quality control.

Time series forecasting is basically looking for patterns and eventually spanning them over long sequences. ... They help with grasping the **temporal** dependence from the data and they can easily identify what previous observations are important and how they are relevant to the current forecasting and for the prediction of cases from the previous data.