



Forecasting COVID-19 Cases in Pakistan using Machine Learning Techniques

Overview

The COVID-19 pandemic has affected the entire world, and Pakistan has been no exception. To effectively manage the pandemic, The Organisation in Pakistan embarked on a project to develop a machine learning (ML) model that could forecast COVID-19 cases based on historic data and other relevant factors.

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Country: Pakistan

Industry: Public Sector

Customer Size: 5000 - 100,000

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Problem Statement

The COVID-19 pandemic has led to a significant increase in the number of cases and deaths in Pakistan. Managing the pandemic requires accurate and timely information about the spread of the virus, which can be challenging to obtain. Additionally, policymakers need to make informed decisions regarding pandemic management and control, which requires accurate forecasting of COVID-19 cases. To address these challenges, the organisation in Pakistan embarked on a project to develop an ML model that could forecast COVID-19 cases based on historic data and other relevant factors.

Technical Solution

The ML model developed by the organisation in Pakistan utilized several machine learning techniques, including ARIMA, LSTM, and FbProphet, to forecast COVID-19 cases. The model was trained using organisation and OurWorldInData datasets present for Pakistan, which included data on COVID-19 cases, mobility rates, and other relevant factors. The model used the historic data to learn about the trends in COVID-19 cases and deaths and then used this information to forecast future cases and deaths. The model outputted nationwide and provincial daily deaths and daily cases based on the mobility rate of the region and the historic data available. The ML model was developed using several tools and technologies, including Pandas, Seaborn, and Matplotlib, to help visualize and interpret the data.

Technologies	Domain
ARIMA, LSTM, FbProphet, Pandas, Seaborn, Matplotlib	Forecasting

Results

The ML model developed by the organisation in Pakistan has shown promising results in forecasting COVID-19 cases. The model has been able to accurately predict the number of cases and deaths, both nationwide and in specific provinces, based on the available data. The model has helped policymakers make informed decisions regarding pandemic management and control by providing accurate and timely information about the spread of the virus. Additionally, the ML model has helped to identify areas that are most susceptible to the spread of COVID-19, which has enabled policymakers to take proactive measures to prevent the spread of the virus. Overall, the ML model developed in Pakistan has been an essential tool in the fight against COVID-19 and has helped to manage the pandemic more effectively.