

Covid-19 Visualization and Prediction

Abstract:

The global spread of COVID-19, a syndrome of severe respiratory infections, has driven the planet into a global crisis. This would influence each zone, such as the horticultural zone, the agricultural zone, the economic zone, the public transport market, and so on. We published an analysis that identified the effects of the global pandemic using next-generation technologies to see how COVID-19 affected the globe.

Prediction is a standard exercise in data science that assists with anomaly identification, objective setting, and strategic planning in administration. We propose a model optimization of interpretable parameters that can clearly be modelled by experts with dataset domain intuition. We focus on international data and conduct complex map simulation of COVID-19's international expansion to date and estimate virus distribution throughout all regions and countries.

Detailed overview of both region-wise and state-wise recorded events; forecast of a viral pandemic attack, deaths, and recovered cases; and the degree to which it is spreading globally are included in this project.

Existing System:

The COVID-19 global pandemic is a threat not only to the health of millions of individuals, but also to the stability of infrastructure and economies around the world. The disease will inevitably place an overwhelming burden on healthcare systems that cannot be effectively dealt with by existing facilities or responses based on conventional approaches.

We believe that a rigorous clinical and societal response can only be mounted by using intelligence derived from a variety of data sources to better utilize scarce healthcare resources, provide personalized patient management plans, inform policy, and expedite clinical trials. In this paper, we introduce five of the most important challenges in responding to COVID-19 and show how each of them can be addressed by recent developments in machine learning (ML) and artificial intelligence (AI).

We argue that the integration of these techniques into local, national, and international healthcare systems will save lives, and propose specific methods by which implementation can happen swiftly and efficiently. We offer to extend these resources and knowledge to assist policy-makers seeking to implement these techniques.

Proposed System:

There are many epidemics that have invaded humanity throughout history. In December 2019, a disease appeared in Wuhan, China, this disease spread very quickly around the world and countries could not control it, prompting the World Health Organization in March 2020 to declare the COVID-19 epidemic is a global pandemic.

The new COVID-19 fulminate in more than 186 countries infecting cases 34.2 million individuals and causing 1.02 million deaths by OCT 02, 2020. COVID 19 causes many effects on the human body, such as influenza symptoms, failure in many organs, and acute respiratory syndrome, which may eventually lead to the death of people, especially the elderly and Patient with chronic diseases. ML has imposed itself as a science capable of solving very complex real-world problems of past years.

Machine learning and artificial intelligence have been used in most areas of life such as medicine, autonomous cars, robotics, weather forecasting, image processing, natural language, UAV, etc. ML algorithms surpass traditional algorithms in that they use the method of learning from experiences and correcting errors based on these experiences as a human being. Prediction is one of the most important areas of ML. ML has been used to predict diseases.

Software Tools:

1. VS Code
2. Jupyter Notebook
3. Colab
4. Kaggle
5. Scikit-Learn
6. Pandas
7. Matplotlib
8. Seaborn
9. Flask
10. Python3
11. NumPy

Hardware Tools:

1. Laptop
2. Operating System: Windows 11
3. RAM: 16GB
4. ROM: 4GB
5. Fast Internet Connectivity

Applications:

1. This can help to create pandemic dashboards and this kind of predictive analysis is very important in pandemic times.
2. The same can be applied for any disaster management cases for purposeful learnings.