Problem Statement:

COVID-19 infectious disease shocked the world and still threatens the lives of billions of people. So, here is need of deep learning techniques and strategic plan to detect COVID-19 patients to control the spread of disease and avoid deaths of people.

Future Work:

To adopt Deep-Learning approach or to adopt set of feature that can help to explain the future cases of COVID-19.

Accuracy

1. ***Matheus Henrique Dal Molin Ribeiro et al:*** use The CUBIST regression, RF, RIDGE, and SVR models that generate accurate forecasting, achieving errors in a range of 0.87%–3.51%, 1.02%–5.63%, and 0.95%–6.90% in one, three and six-days-ahead, respectively.
2. ***Seung Hoon Yoo* et al:** use the first decision tree classifies the CXR images as normal or abnormal. The second tree identifies the abnormal images that contain signs of tuberculosis, whereas the third does the same for COVID-19. The accuracies of the first and second decision trees are 98 and 80%, respectively, whereas the average accuracy of the third decision tree is 95%.
3. ***Warda M. Shaban et al:*** use Hybrid Feature Selection Methodology (HFSM) provides precision, recall, accuracy, and error values reach to 0.72, 0.71, 0.93, and 0.07 respectively. The proposed CPDS achieved 96% of accuracy that is higher than other recent methodologies.
4. ***Majid Nour et al:*** use SVM classifier with an accuracy of 98.97%, a sensitivity of 89.39%, a specificity of 99.75%, and an F-score of 96.72%.

Contributions

1. ***Majid Nour et al:*** Contributions are as follows:
    a. CNNs with rich filter family, convolution, abstraction, and weight sharing have ensured an effective deep feature extraction engine.
    b. The deep features extracted from deep layers of CNNs have been applied as the input to machine learning models to further improve COVID-19 infection detection.

c. As a result, a cheap, fast, and reliable intelligence tool has been provided for COVID-19 infection detection.
d. The developed model can be used to assist the field specialists, physicians, and radiologists in the decision-making process.

2. ***Warda M. Shaban et al:*** introducing a new COVID-19 Patients Detection Strategy (CPDS) to detect infected patients. CPDS consists of two phases, which are; (i) Data Pre-processing Phase (DP2) and (ii) Patient Detection Phase (PDP).
3. ***Seung Hoon Yoo* et al:** propose a deep learning-based decision-tree classifier comprising three levels. Each decision tree is trained by a deep learning model with a PyTorch frame-based convolution neural network. Using the proposed classifier, he investigate whether the detection of COVID-19 is feasible in CXR images. Furthermore, he quantify the accuracy of detection rates for normal, TB, COVID-19, and other non-TB diseases to see if the proposed classifier is a good candidate for clinical purposes.
4. ***Matheus Henrique Dal Molin Ribeiro et al:*** contributions are as follows:
   a. The first contribution is related to the presentation of a novel analysis of the forecast model for cumulative confirmed cases of COVID-19 in Brazil, whose accuracy of the models assists governors in decision making to contain the pandemic and strategies concerning the health system;
   b. The second contribution, highlight the use of heterogeneous machine learning models, as well as the stacking ensemble learning approach to forecast the Brazilian cumulative confirmed cases of COVID-19;
   c. His paper also evaluates models forecasting in a multi-day ahead forecasting strategy. The forecasting time horizons are the interval of one, three, and six-days-ahead. This range of the forecasting time horizon allows us to verify the effectiveness of the predicting models in different scenarios, helping in future strategies in fighting COVID-19