Topic: Covid Diagnosis using Deep Learning Model with X-Rays.

Batch: C11

Currently, the detection of coronavirus disease 2019(COVID-19) is one of the main challenges in the world, given the rapid spread of the disease. Recent statistics indicate that the number of people diagnosed with COVID-19 is increasing exponentially, with more than 1.6 million confirmed cases; the disease is spreading to many countries across the world.

In this study, we analyse the incidence of COVID-19 distribution across the world. We present an artificial-intelligence technique based on a deep convolutional neural network to detect COVID-19 patients using real-world datasets. Our system examines chest X-ray images to identify such patients. Our findings indicate that such an analysis is valuable in COVID-19 diagnosis as X-rays are conveniently available quickly and at low costs. Additionally, three forecasting methods—the prophet algorithm, autoregressive integrated moving average model, and long short-term memory neural network —were adopted to predict the numbers of COVID-19 confirmations, recoveries, and deaths over the next 7 days. The prediction results exhibit promising performance and offer an average accuracy of 94.80% and 88.43% in Australia and Jordan, respectively. Our proposed system can significantly help identify the most infected cities, and it has revealed that coastal areas are heavily impacted by the COVID-19 spread as the number of cases is significantly higher in those areas than in non-coastal areas.