Coronavirus Prediction Using CT Images By Machine Learning Models

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Abstract

Coronavirus-19 was declared a global pandemic by the World Health Organization (WHO) in March 2020. Machine learning (ML) algorithms may play a key role in detecting Coronavirus-19 patients' chest CT scans by visually examining them. This study proposes a unique machine learning approach for classifying chest x-ray images into two groups: Coronavirus-19 patients and non-Coronavirus-19 patients. The information from chest CT images was extracted using a Convolution Neural Network (CNN) and K-Nearest Neighbors algorithm (KNN). A parallel multi-core computational framework is utilized to speed up the computing process. Then, having first-hand CT imaging and clinical data is crucial for guiding clinical decisions, adding to our understanding of the virus's infection patterns, and contributing to the creation of systematic models for early diagnosis and medicinal therapy. Because of the severity of the infection. Because the illness is so widespread, this is quite important. The creation of a comprehensive database with open access to CT scans and Coronavirus-19 clinical symptoms. The suggested approach was tested using two Coronavirus-19 x-ray datasets. The suggested technique achieved accuracy rates of 0.9809 and 0.9809 for the first and second datasets, respectively.

Keywords: Coronavirus-19, CNN, KNN, Machine Learning