

Challenges and Potential Solutions of Machine Learning-based approach for COVID-19 Detection using Computerized Tomography Scan.

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- **Abstract:** COVID-19 is a novel virus that has contaminated over three millions people worldwide and continues to do so. Computerized Tomography (CT) scans have been used widely in hospitals to diagnose respiratory illness, among others. This paper presents a review on machine learning application for COVID-19 detection using computerized tomography scan, the challenges, and potential solutions. Several studies have been conducted in which a CT scan was used to detect COVID-19. However, the reported CT specificity varied greatly. Moreover, there is a concern on performance stability affected by structural changes and sample size used for training using CT scan. The effect of incorporating a moment-invariant based algorithm for CT scan-based feature extraction on the stability and precision of the COVID-19 detection can be investigated. Moreover, it is recommended to compile publicly available CT scan based COVID-19 databases and standardize the criteria of the data used for COVID-19 detection.
- **Keywords:** novel virus, Computerized Tomography (CT) scans