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Proposed deep learning pipeline for an automatic covid-19 detection for medical images**Nedjouda houda kholladi***Eloued University, Algeria*

The easy detection of COVID-19 is challenging. Quick biological tests are not accurate enough. In this reason the COVID-19 has profoundly impacted health care systems and patients worldwide. and for poor countries cannot be effectuated for all patients. A reverse-transcription polymerase chain reaction (RT-PCR) has been known as the most commonly used test to detect COVID-19. This method is labor-intensive, and some studies have provided some issues such as: sensitivity that has low detection at the beginning, high-cost, time elapsed and massively parallel testing that can yield a lot of tests. Fighting new outbreaks involve not only the efficiency of tests, but also the integration of various kinds of factors consider, for instance, the diagnosis accuracy of COVID-19 based on chest scans which is strongly dependent on radiologists experts, the pandemic peaks require a large number of tests in precise and short time, the availability of tests,etc. This work aims to design a freely available, quick, and efficient method for automatically detecting COVID-19 form CT scans using different datasets. The proposed model aims to classify a given chest X-ray image into two classes: infected or healthy patient, this model has been implemented using the following pipeline: Pre-processing Step{ using normalization and augmentation process}, Feature Extraction Step based CNN, Feature Selection Step based embedded model, Inference Step using Machine Learning algorithms and Classification Step using eight deep learning models: Alex Net, VGG-16, Google Net, MobileNet-V2, Squeeze Net, ResNet-34 and ResNet-50, and Inception-V3. The dataset used in this work named Kaggle "COVID-19 Radiography Database", the experiments have been performed out an accuracy up to 96.88%, this competes a state of the art models designed, also, another set of tests elaborated on a local dataset to check the loss function and the gene.

Biography

Nedjouda Houda Kholladi has submitted research work in theoretical and experimental work, with significant expertise in statistical analysis. A committed, knowledgeable and capable Research Fellow{Northampton, Gloucestershire/United Kingdom}.She is highly experienced in teaching and monitoring students, strategic planning and budget management for nearly 13 years.