ABSTRACT

An important worldwide health issue is pneumonia, a potentially fatal respiratory illness. For a patient to receive appropriate treatment and care, pneumonia must be promptly and accurately detected. Recent years have seen the emergence of promising tools for automated pneumonia detection from chest radiographs, including medical image analysis techniques and machine learning algorithms. The deep convolutional neural network (Deep-CNN) multimodal model and transfer learning techniques are utilised to construct and evaluate a machine learning application for pneumonia detection in this abstract.The suggested methodology makes use of Deep-CNNs& Transfer Learning Model combination, which have proven to perform exceptionally well in image analysis applications. By using a multimodal approach, the model makes use of both the contextual information and visual data retrieved from chest radiographs, improving its capacity to identify significant patterns and features suggestive of pneumonia. Additionally, transfer learning strategies are used to exploit pre-trained models, giving the network access to information gained from sizable datasets even in the absence of a substantial amount of labelled data.Experimental results show that VIYU the state-of-the-artmodel attained the highest accuracy and recall score of 98.08% and 98.91%, respectively.

Keywords: Pneumonia detection, medical image analysis, deep convolutional neural networks, multimodal learning, transfer learning, machine learning, chest radiographs, Deep-CNN.