ABSTRACT

Lung diseases can be predicted through various medical tests and imaging studies, such as chest X-rays, computed tomography (CT) scans, and pulmonary function tests. Other diagnostic methods include sputum analysis, bronchoscopy, and biopsy. The choice of test depends on the suspected condition and the symptoms of the patient. In addition to these tests, a doctor may also take into account the patient's medical history, exposure to risk factors (such as smoking or air pollution), and physical examination results to make a prediction. However, it's important to note that predicting lung diseases can be challenging, and a definitive diagnosis can only be made through proper medical evaluation. In some cases, a combination of tests and assessments may be needed to arrive at an accurate diagnosis. Deep learning is a subset of machine learning that uses artificial neural networks with multiple layers to learn from data. It has been applied in the field of medical imaging, including lung disease prediction. In the context of lung disease prediction, deep learning algorithms can be trained on large datasets of computed tomography (CT) scans to identify signs of lung diseases such as pneumonia, tuberculosis, lung cancer, and chronic obstructive pulmonary disease (COPD). These algorithms can learn to identify characteristic patterns in the images that are indicative of specific lung diseases, such as the presence of nodules, infiltrates, or cavities. This work classify multiple lung diseases using Xception CNN algorithm and provide the precaution details based on disease prediction.