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| Title | A comprehensive survey on the progress, process, and challenges of lung cancer detection and classification | | |
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| Abstract |  |
| Lung cancer is the primary reason of cancer deaths worldwide, and the percentage of death rate is increasing step by step. There are chances of recovering from lung cancer by detecting it early. In any case, because the number of radiologists is limited and they have been working overtime, the increase in image data makes it hard for them to evaluate the images accurately. As a result, many researchers have come up with automated ways to predict the growth of cancer cells using medical imaging methods in a quick and accurate way. Previously, a lot of work was done on computer-aided detection (CADe) and computer-aided diagnosis (CADx) in computed tomography (CT) scan, magnetic resonance imaging (MRI), and X-ray with the goal of effective detection and segmentation of pulmonary nodule, as well as classifying nodules as malignant or benign. But still, no complete comprehensive review that includes all aspects of lung cancer has been done. In this paper, every aspect of lung cancer is discussed in detail, including datasets, image preprocessing, segmentation methods, optimal feature extraction and selection methods, evaluation measurement matrices, and classifiers. Finally, the study looks into several lung cancer-related issues with possible solutions. | |