

A machine learning approach for the feature extraction of pulmonary nodules

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In recent times, computational studies have emerged as a viable alternative for complementing the efforts of experienced radiologists in disease diagnosis. Computed tomography (CT) studies are a common way of predicting the lung nodule malignancy for the early diagnosis and treatment of lung cancer in patients. Early detection of the type of nodule is the key to determining the appropriate treatment, thus increasing patient survival. Feature extraction is an important stage in classifying benign and malignant nodules in chest CT scans. However, determining the type of nodule in CT scans is a challenge in medical imaging, since CT images cannot be evaluated as an average or generic image. Hence, the study was based on the application of machine learning techniques, for the feature extraction of pulmonary nodules on a public, Lung TIME dataset, which features scans of teenage and adult patients.

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