Abstract

In this paper, we represent computer aided diagnosis (CAD) system for recognition of lung cancer by analyzing CT images of chest. CAD system helps to improve the diagnostic performance of radiologists in their image interpretations. The proposed system relies on three stages mainly; firstly, the CT image is enhanced. Secondly, the lung and tumor are segmented from the input CT image by separating them from other organs in the CT scan. This is done using region growing Algorithm for segmenting the lung parenchyma and a set of morphological operations to detect the tumor. Thirdly, the geometrical information and transformed based features such as Radon transform based features obtained from the extracted tumor are used to classify the lung tumor into benign and malignant employing adaptive neuro fuzzy inference system (ANFIS) classifier. Correct Classification rate of 98% is obtained by using geometric features.

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Index Terms

Computer Science  Fuzzy Systems

Keywords

Radon transform, lung cancer, region growing algorithm, ANFIS classifier.