Abstract

Lung cancer is the leading cause of cancer-related deaths in western countries. The prognosis for patients with lung cancer depends primarily on the stage of the tumor at the time of clinical diagnosis. This Dissertation presents a method to find and classify the lung tumor by using region growing and Median filter. The Median filter Method are applied for the filtering of lung tumor. Lung cancer is a leading cause of death globally. It is also a major healthcare problem in India. An online search using the words “lung cancer India” yielded the following hits on 20th February 2016. Google gave 43, 80,000 results. In recent years the image processing mechanisms are widely used in several medical areas to improve earlier detection and treatment stages, in which the time factor is very important to discover the disease among the patient as possible as fast. Lung cancer death rates have been the main cause of cancer deaths in the world, early detection and the treatment of lung cancer can greatly improve the survival rate of patient. Historically more men have died than women from lung cancer as a result of higher level of smoking. So the continuous screening test is required to address this problem. The main objective of this work is earlier detection of cancer, often small cancer size
to be identified to increase the survival rate. This Dissertation also presents a cost effective approach to classify the normal, malignant and benign tumor using Active shape model, OSF Recurrent neural network with region growing technique. Lung cancer tumor database used for the testing purpose is from the machine learning repository. The highest accuracy of 97.12% is achieved using the two layer neural network back propagation algorithm.

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Index Terms
Keywords

Active shape model, Image processing, OSF, Recurrent neural network, Region growing technique