Mir Rayat Imtiaz Hossain, Imran Ahmed and Md. Hasanul Kabir, “Automatic Lung Tumor Detection Based on GLCM Features", In: International Workshop on Feature Similarity and Learning for Computer vision (conjuction with 12th Asian Conference on Computer Vision 2014), Singapore, 1-2 November 2014.

Abstract:

For diagnosis of lung tumors, CT scan of lungs is one of the most common imaging modalities. Manually identifying tumors from hundreds of CT image slices for any patient may prove to be a tedious and time consuming task for the radiologists. Therefore, to assist the physicians we proposed an automatic lung tumor detection method based on textural features. The lung parenchyma region is segmented as a preprocessing because the tumors reside within the region. This reduces the search space over which we look for the tumors, thereby increasing computational speed. This also reduces the chance of false identification of tumors. For tumor classification, we used GLCM based textural features. A sliding window is used to search over the lung parenchyma region and extract the features. Chi-Square distance measure is used to classify the tumor. The performance of GLCM features for tumor classification is evaluated with the histogram features.