

Lung Cancer Image Classification system using Random Forest Classifier

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Abstract – Lung cancer is a real public health problem. Indeed, it is the leading cause of cancer mortality in the world, survival at 5 years is only 15% and this is largely due to late diagnosis and a high metastatic power. Improving the management of this type of cancer therefore implies a better knowledge of the processes of oncogenesis and tumor invasion. Most of the models for lung cancer classification based on lung cancer image are various types of the classification model with binarization image pre-processing. This paper proposes a method based on Random forest classifier for lung cancer image classification from the given database images. Feature extraction of the image is accomplished using Gabor Wavelet and GLCM (Grey Level Co-occurrence Matrix). Then the extracted features are classified by the Random forest classifier. This paper provides the confusion matrix with sensitivity, specificity and accuracy for Gabor wavelet, GLCM and Hybrid (Gabor + GLCM) based approaches.

Keywords – Lung Cancer, Gabor Wavelet, GLCM, Random Forest Classifier.