Abstract

Emphysema is a common chronic respiratory disorder characterised by the destruction of lung tissue. A standard approach used for emphysema detection in medical image analysis and other computerized techniques used for classification of emphysema. The Cancer detection and classification of histopathological images is the standard clinical practice for the diagnosis and prognosis of any cancer. In this paper we present the cancer detection and classification of benign and malignant tumour (Nuclei) based on H & E stained histopathology and colour segmentation based staining method to distinguish the different types of tissues in biomedical application. Nucleus detection in H&E is a challenging problem considering the variability, heterogeneity, low contrast, K means clustering, and differing typologies of nuclei to distinguish different types of tissues. There are strong indications that morphological analysis in H&E can serve as a biomarker. This paper is about developing a image processing method for H&E stained cancer images and these method which helps pathologists to distinguish different types of tissues in biomedical applications. The segmentation approach is completely colour based.
and uses k-means clustering technique uses a series of algorithm steps which is an image processing approach in distinguishing the different tissue types. These algorithm steps are modelled in image processing tool box of MATLAB v7.0. Modelling steps involved are from reading the image to segmentation of the nuclei into a separate image in MATLAB real-time simulation environment.

References

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Index Terms

Computer Science  Image Processing

Keywords

Emphysema, Histopathology, H&E staining, K means clustering, Color Segmentation, Image Processing, MATLAB.