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IMAGE PROCESSING - (CSE4019)

PROJECT

NAME OF THE FACULTY

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Digital Analysis Of Organ CT Scans For Tumor Detection

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ABSTRACT

Tumour detection is one of the modalities that can be used to diagnose tumours in organs. However, this modality only captures the image without extracting the tumour completely. The process of extracting medical images is one of the most challenging fields nowadays.

Most of the techniques used nowadays are more MRI modality compared to CT scan images because MRI images are of higher resolutions. Image processing techniques are widely used in several medical problems for picture enhancement in the detection phase to support the early medical treatment.

In this research we proposed a detection method of organ tumor based on image segmentation. This project describes methods to detect and extract organ tumour from patients CT scan images. Image Segmentation is used to detect the tumours. The process involves the extraction and segmentation of tumour of a patient using MATLAB software.

In recent years the Image processing mechanisms are used widely in several medical areas for improving early detection and treatment stages, in which the time factor is very important to discover the disease in the patient as fast as possible, especially in various cancer tumours such as the lung cancer.

Early detection of such tumours is very important for successful treatment. There are very few methods available to detect such cancerous tumours. One of such popular methods is using Image Segmentation.

The diagnostics of these images depend strongly on the texture of lung tissue and automatic analysis can be a valuable help. The preprocessing step of most Computer-Aided Diagnosis (CAD) systems for identifying the lung diseases is lung segmentation.

The objective of proposed system is to represent a fast and robust system for detecting Lung Cancer properly in early stage and our proposed system provide more accuracy than many other existing techniques.

METHODOLOGY – SYSTEM FLOW

1. Identify type of noise
2. Input, Grayscale and Noise removal
3. Converting the grey scale image to binary image
4. Creating morphological structuring element (STREL)
5. Inversion of the Opened Image
6. Creating an initial Contour and Implementing Segmentation
7. Combination Image and Find Circles
8. Segment Circles

THANK YOU