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The New Method of Disease Detection Using Image Processing

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Abstract:-The population of India is growing day by day, with the growing rate of population rate of disease is growing exponentially. There are various hazardous and life captivating disease in the world likes lung cancer, brain tumour, dengue etc. The premature detection of the diseases is necessary to save population of the world. Image processing is worldwide used technique in medical field. It is difficult for the practitioner to exactly construe and discover the diseases from medical images like from CT scan images. A beginner cannot accurately get the disease information, although the image processing helps a lot to categorize the diseases perfectly to save the life.

Keyword: *Disease, Detection, Processing*

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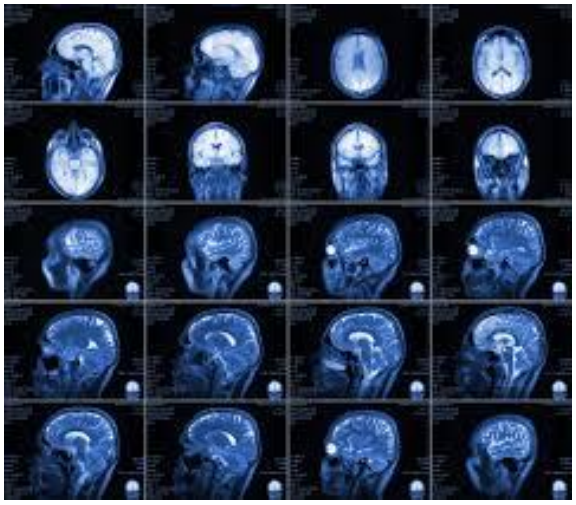
I. Introduction

Diseases are the solitary grounds of death. It is hard to detect because the symptom present in early stages in somehow similar to big category of disease and in last stages the exact symptom of diseases get cleared. However, death rate and prospect can be condensed by timely recognition and cure of syndrome. There are various imaging technique used in medical field to early detection of disease like CT scan imagining for lung cancer, MRI scan imagining to detect various brain functioning, tumours, cysts and another unsuspected disease in its early stages. Preeminent imaging procedure CT imaging is consistent for lung cancer analysis because it can reveal every doubted and unknown lung cancer knobbles [1]. Nevertheless, change of strength in CT scan images and anatomical assembly, miscalculation by doctors and radiologists might reason difficulty in marking the cancerous cell [2]. Freshly, to support radiologists and doctors distinguish the cancer accurately computer Aided Diagnosis has become enhancement and encouraging tool [3].



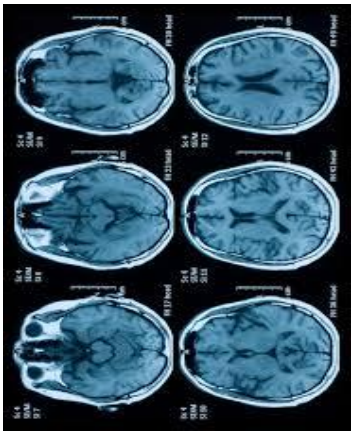


Fig. 1 MRI, CT scans Images

II. Related Work

Numerous researchers has projected and implemented recognition of distinct diseases by means of diverse approaches of image processing and machine learning. As in [1] author performed a comparative study of feature extraction of image processing. As in [2] author studied the lung cancer using radiological classification of images. As in [3] author performed a deep analysis on CT scan imagining process. As in [4] author planned a sculpt that providetaxonomyamong nodules and normal lung anatomy structure. The technique extracts geometrical, statistical and gray level distinctiveness. As in [5] author worn difficulty neural system as classifier in his CAD system to perceive

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the lung diseases. As in [6] author uses K mean unsupervised learning algorithm for clustering or segmentation. As in [7] author builds a structure to detect disease lump using fuzzy interference system

Evaluate the imaginary tale reviews, on the root of precision and reward of the steps used; the modelprojectedto process the images is as follows.

Here image processing pass through afilter named as Gabor to boost the picture along with pointer guarded watershed process for segmentation and identify the disuses knobble. Yet the arrangement is presentat most used in image processing for diseases detection like lung cancer (fig. 1), it have a number of restrictions. They are index idas follows.

1. Only a small number of characteristics have been extracted for disease.
2. In this No image pre-processing is used like noise elimination, picture smoothing which be capable of possibly assist in growing the recognition of nodules correctly has been implemented.
3. No taxonomy as kind or cruel of extracted cancer has been performed.

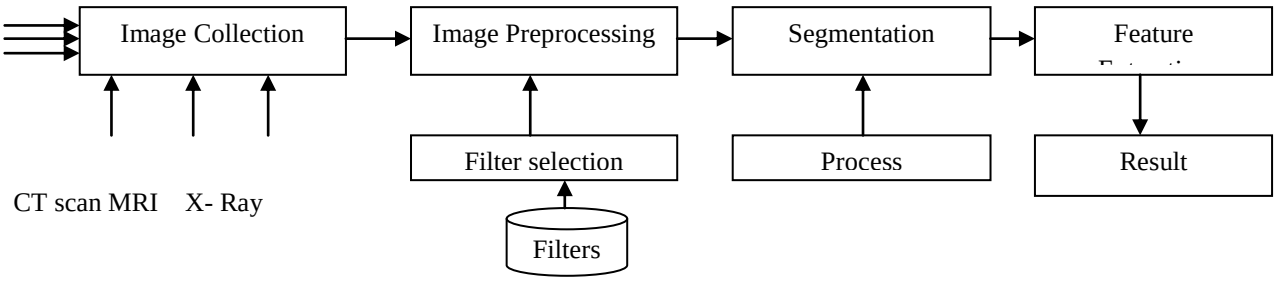
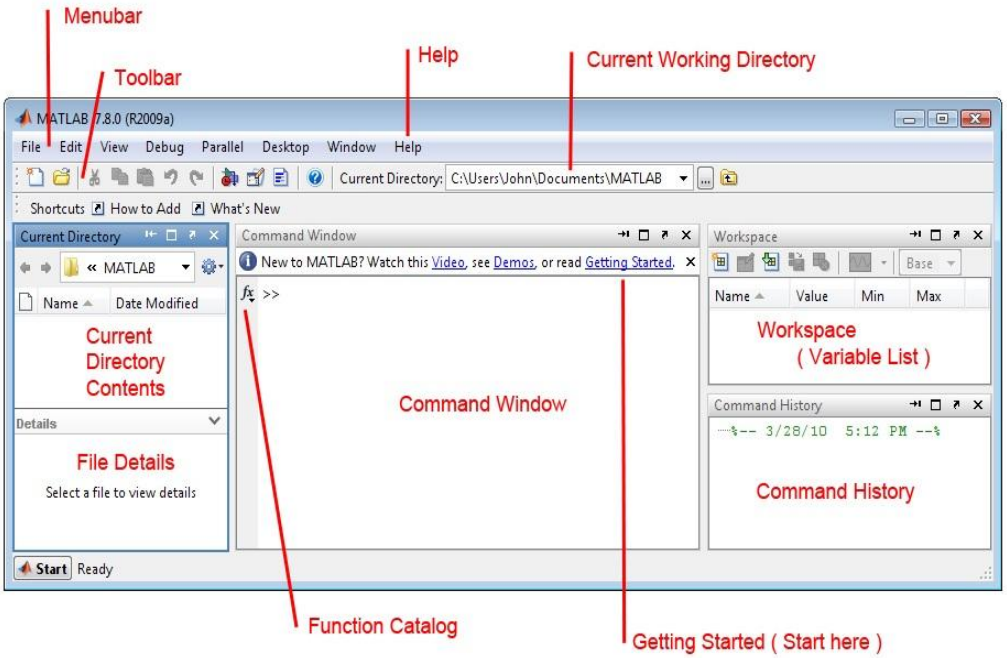


Fig. 1

Tools

There are various tools available for image processing; MATLAB is one the famous tools used worldwide in research, development and analysis of image processing models in medical field.



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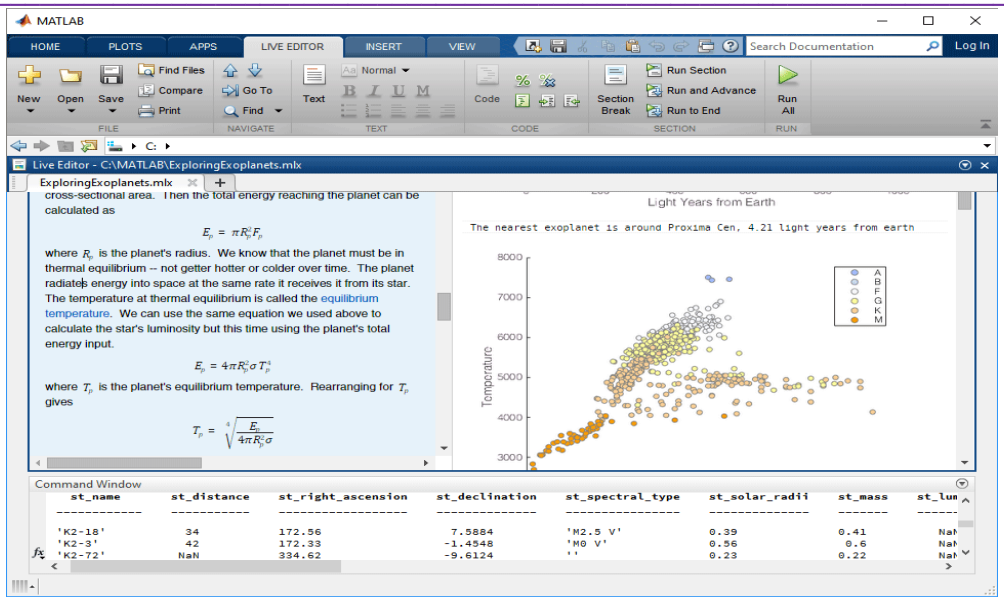


The figure Shown above present the MATLAB latest edition 2016a which has four windows name as current directory, File detail, Command window and work space directory. The tools are used to build a new model and compare the previous existing model for research and development in field of image processing.

We can compare the precision of existing model with proposed model in terms of percentage and identify the progressive growth andreduction in the parameters of proposed model like area, mean value, mode value, median, eccentricity and can plot in the form of graph.

Proposed model

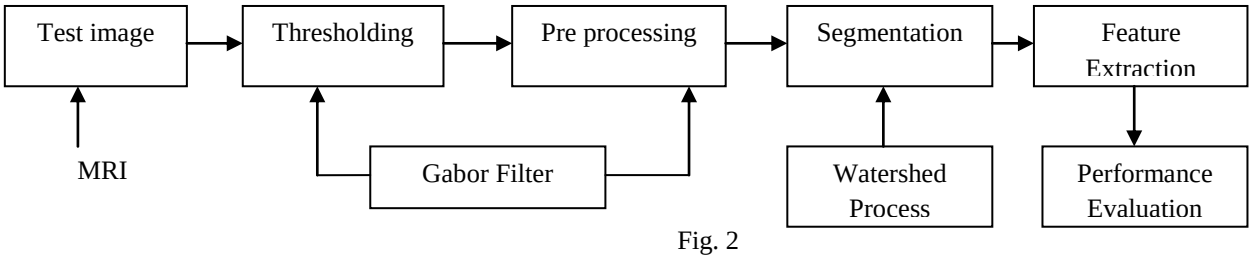
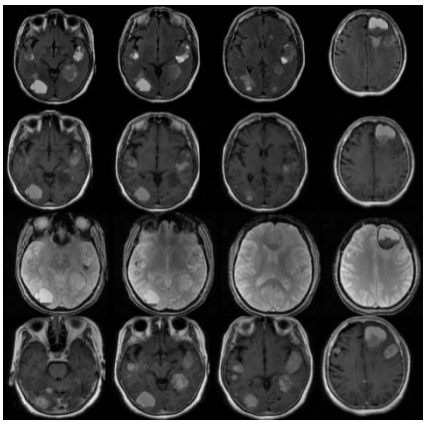


Fig. 2

In this model image processing can be more accurate by adding threshold value at different level, at this stage the Gabor filter is also used to separate the parameter at earlier stage. In performance evaluation feature extracted are evaluated first, here we can extend this module by applying a critic to check the extracted feature.

Here we can use the grey scale image, RGB and CYM images to detect more features exactly.



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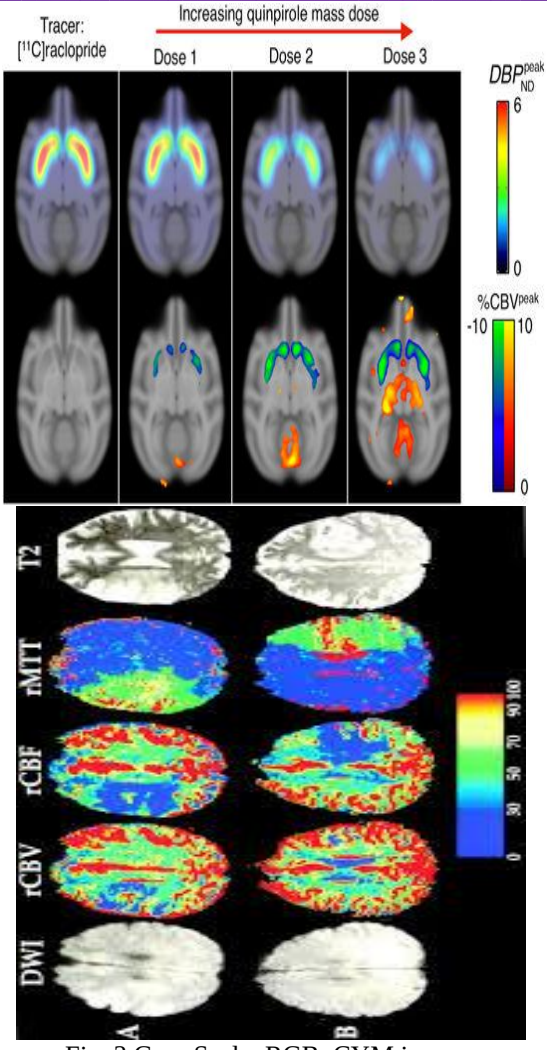

Fig. 3 Grey Scale, RGB, CYM images

III. Conclusion

In this paper we have studied the existing model of image processing to detect the hazardous diseases like lung cancer, tumours and life taking diseases. This model is popular and widely used in medical image processing still it has distinct advantages and limitation which can be further improved to enhanced the accuracy of detection.

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