



Feed Forward Neural Network Based Automatic Detection of Liver in Computer Tomography Images

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Abstract : Liver detection in CT/MR images is vital, because it is the preliminary task before diagnosing liver diseases like liver tumor and liver transplantation. This paper presents a neural network based model for the automatic detection of liver in CT images. As the input CT image contains noise incurred during the acquisition, the image is pre-processed with decision based median filter. Local features are extracted using first order statistics and texture features are extracted by gray level co-occurrence matrix. The back propagation neural network is used for the classification of pixels into liver and non-liver regions. The features are normalized and training comprises of inputs from seven data sets. The tumor boundary detection was done by localized region based active contour model. The proposed algorithm was tested on real time CT images and evaluated both qualitatively and quantitatively.

Keywords : Neural Network, Segmentation, noise, local features, texture.

S.N Kumar *et al* /International Journal of PharmTech Research, 2016,9(5),pp 231-239.
