Abstract

Due to the advent of computer technology image-processing techniques have become increasingly important in a wide variety of applications. This is particularly true for medical imaging such as Computer Tomography (CT), magnetic resonance image (MRI), and nuclear medicine, which can be used to assist doctors in diagnosis, treatment, and research. In this paper, hybrid algorithm for segmentation of color images is presented. The segments in images
are found automatically based on adaptive multilevel threshold approach and FCM algorithm. Neural network with multisigmoid function tries to label the objects with its original color even after segmentation. One of the advantages of this system is that it does not require a past knowledge about the number of objects in the image. This Fuzzy-Neuro system is tested on Berkley standard image database and also attempts have been made to compare the performance of the proposed algorithm with other currently available algorithms. From experimental results, the performance of the proposed technique is found out to yields better extraction of salient regions with high resolution as nearly same as the original image and better than the existing techniques. It can be used as a primary tool to segment unknown color images. Experimental results show that its performance is robust to different types of color images.

Reference


Index Terms
An Approach to Extract Salient Regions by Segmenting Color Images using Soft Computing Techniques

Computer Science  Wireless

Key words
Neural Networks & Fuzzy Logic Systems
Object Extraction
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Salient Regions