Abstract

Image segmentation is a necessary task in computer vision and digital image processing applications, where foreground objects are to be separated from background. Many thresholding techniques are found in literature with their own limitations. The Gray level Spatial Correlation (GLSC) Histogram is used in entropic techniques to decide the threshold. In this paper we propose an improved GLSC Histogram, computed with varying similarity measure ($\zeta$)
by considering local and global characteristics, because Yang Xiao et. al. used a constant 4 as
the similarity measure by considering the image local properties only, which does not suits for
all types of images and probability error is minimized by redistributing the missing probability
amount in floating precisions. For low contrast images contrast enhancement is assumed.
Experimental results demonstrate a quantitative improvement against existing techniques by
calculating the parameter efficiency $\eta$ based on the misclassification error and variations in
various yielding towards ground truth threshold on two dimensional histogram of image.

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Index Terms

Computer Science  Image Processing
Key words

Entropy                GLSC histogram                        threshold
image segmentation