A Neural Approach for Color-Textured Images Segmentation

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Abstract : In this paper, we present a neural approach for unsupervised natural color-texture image segmentation, which is based on both Kohonen maps and mathematical morphology, using a combination of the texture and the image color information of the image, namely, the fractal features based on fractal dimension are selected to present the information texture, and the color features presented in RGB color space. These features are then used to train the network Kohonen, which will be represented by the underlying probability density function, the segmentation of this map is made by morphological watershed transformation. The performance of our color-texture segmentation approach is compared first, to color-based methods or texture-based methods only, and then to k-means method.

Keywords : segmentation, color-texture, neural networks, fractal, watershed
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