

Perceptual Colour Image Segmentation

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Abstract:

Most of the previous works dealing with computational representations for colour texture have been directed to extend gray level representations to every one of the RGB channels. However, to deal with colour texture we need operators that combine co-jointly the spatial and the colour information in a way that simulates the especial behaviour demonstrated by the human visual system. Colour scenes appearance depends on the colours in the image and their interactions due to some effects called colour induction. In this paper we will analyse chromatic contrast as one of these phenomena that acts on the colour texture perception. We propose a computational operator for a perceptual sharpening that simulates the contrast effect and will allow a better segmentation of colour images. To validate this approach we use the well know EM mixture of gaussians segmentation procedure and a measure on how good is a given segmentation to get an idea of the benefits of such operator.