JPEG2000-Based Image Features with Its Application to Texture Segmentation

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Abstract

In this paper, a context-based wavelet histogram (CBWH) is proposed to characterize image textures. A simple method is also developed to estimate bit-plane probabilities of the CBWH, which can be used as features to segment textured images. Based on the arithmetic coder of the JPEG2000 standard, the CBWH-derived image features can be obtained directly from the MQ table. As a result, images can be segmented in the JPEG2000 domain. The potential of this new scheme is shown by experimental results.

Keyword：context-based wavelet histogram, JPEG2000, image texture, image segmentation.