A Fast Wavelet-Packet-Based Algorithm for Texture Synthesis

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Abstract

We propose a fast texture synthesis algorithm based on wavelet packet transform. It decomposes the input image into wavelet packet coefficients, then a 2-step matching, specifically coarse matching based on low frequency wavelet packet coefficients followed by fine matching based on high frequency wavelet packet coefficients, is used for the texture synthesis task. Experimental results show that the proposed algorithm is preferable in terms of computation time.

Keyword：Wavelet packet transform , texture synthesis, JPEG-2000