Abstract

This paper describes a super-resolution technique based on interpolation of the high-frequency subband images obtained by discrete wavelet transform (DWT) and the input image. This technique uses DWT to decompose an image into different subband images. Then the high-frequency subband images and the low-resolution input image have been interpolated, followed by combining all these images to generate a new super-resolved image by using inverse discrete wavelet transform (IDWT). This super resolution technique has been tested on various images. The peak signal-to-noise ratio (PSNR) and visual results show the superiority of this technique over the conventional and state-of-art image resolution enhancement techniques.

Index Terms

Computer Science

Image Processing

Keywords

Discrete wavelet transform super-resolution