

A Fast Algorithm for Resizing Images in the DCT Domain

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Abstract

For many applications such as image transmission over channels with variable bandwidths and image display on devices at different resolution levels, image resizing is widely demanding. Recently, image resizing algorithms in the compressed domain have drawn a lot of attention to computation efficiency. In this paper, an efficient image resizing algorithm based on discrete cosine transform (DCT) has been proposed for the JPEG applications. In comparison with the conventional DCT-based algorithm, it has been shown that N -point DCT coefficients can be decomposed into $N/2$ -point DCT and $N/2$ -point DST to improve the computational complexity and efficiency.

Keyword : image resizing, compressed domain, discrete cosine transform (DCT)