

The Watermark Copy Attack Based on the Principle Analysis

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Abstract. With the development of the advanced printer and scanner, it is easy to transform images between the digital format and the printed. So, the digital watermarking algorithm resilient to the print and scan operation is necessary. In this paper, we analyze a watermark software product which could resist print-scan attack. Using original images and watermarked images, the principle of the watermark software can be estimated, that is: first add yellow borders to the original images, then separately process R,G,B components of color images: segment the images into blocks with 16*16 size, and take discrete cosine transform (DCT) to every sub-block. Finally, embed watermarking to images through modifying the intermediate frequency coefficients of sub-block. After learning the algorithm theory, it is easy to copy a watermarking to another image. Experimental results show that the algorithm is effective.

Keywords: Color image, watermarking, print and scan, discrete cosine transform, copy attack

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