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A recent survey on image watermarking using scaling factor techniques for copyright protection

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Abstract
This survey presented a discussion of the existing scaling factor and adaptive scaling factor in image watermarking schemes. The discussion included several issues: robustness, imperceptibility and computational time for embedding a watermark. This survey also discussed the general concept of the image watermarking, transform method, embedding region and security on the existing watermarking scheme. This paper also discussed the recent use of watermarking techniques, potential issues and available solutions in adaptive watermarking schemes. Furthermore, the performance summary of the state-of-art embedding techniques is presented and analysed for future research. This literature review became useful to researchers to know the current challenges in embedding a watermark image. This survey information can be used to design an efficient embedding watermark for copyright protection.

Keywords Image watermarking · Embedding and extracting · Adaptive scaling factor · Transform domain · Robustness · Imperceptibility · Computational time

1 Introduction

The rapid growth of internet technology has increased the amount of multimedia data transferred over the internet. People can share data such as video, image, audio, and documents through the internet network. Multimedia data such as images can be easily copied or manipulated by unauthorized users. This may result in a significant loss due to copyright property. Therefore, the protection of multimedia data is essential to save the distribution of intellectual property. Multimedia data needs to be secured and protected from illegal copy,

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