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Survey on Reversible Watermarking Techniques for Medical Images

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Abstract

In recent years, the growth of the Internet along with multimedia data delivery has caused the misuse and even alteration of the original digital content. Multimedia data has a big share of the total data transmitted over the Internet every day. Such multimedia data is vulnerable to misuse and theft. Digital watermarking has been used traditionally to protect multimedia data by authenticating the content and by providing copyright protection. The downside of

digital watermarking, however, is that it always introduces some amount of signal distortion. The distortion caused is imperceptible and doesn't create an issue in general. But, in certain applications like the medical field, such loss of information is intolerable because the distorted information might affect the analysis of medical images and the subsequent inferences drawn from this analysis. Reversible watermarking techniques ensure that there is no information loss in the watermarking process and as such are suitable for such applications. This chapter presents an overview of reversible digital watermarking, the classification of different reversible watermarking techniques with special emphasis on the state-of-theart reversible watermarking techniques developed for maintaining the integrity and authenticity of medical image data.

Keywords

Reversible watermarking	Medical images	
Difference expansion	Pixel prediction	
Histogram modification	Authenticity	Integrity

Region of interest

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