



IMAGE SELECTION CRITERIA FOR EMBEDDING DESIRED CAPACITY USING FRBS

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Abstract: Data hiding methods are used to carry information from one place to another. Digital watermarking is one of the data hiding methods. Imperceptibility and capacity are the conflicting parameters in digital watermarking. The more the embedded information, lower the imperceptibility and vice versa. Imperceptibility factor (IF) is measured as peak signal to noise ratio (PSNR) of the image after embedding information. No such schemes exist in the literature in which an image can be chosen that may carry a desired capacity, while keeping imperceptibility as high as possible. In this scheme a two stage fuzzy rule based system (FRBS) is designed to choose the image among the list that is capable of holding desired capacity while achieving high imperceptibility at the same time. Validity of the proposed scheme is checked through simulation results of different types of images like natural and medical. Moreover, the proposed scheme is also robust against JPEG compression attack.

Key words: *Imperceptibility, FRBS, capacity, digital watermarking*

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1. Introduction

There are two classical methods for protecting documents, encryption and copy-protection. The problem with encryption is that after decrypting the data, it can be copied and distributed easily. However, copy-protection procedures can

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