Abstract

Fractal image compression is an active area of research with new promising techniques that will work very effectively in areas where we have to deal with a huge size of data. In Fractal compression, major challenge is the exhaustive comparison needed in the encoding stage. In this paper a method of iteration free-detail space fractal image compression is proposed, in which time of encoding is reduced without compromising much on the quality of image and this algorithm guarantees a high compression ratio. This is a hybrid algorithm of fractal mathematics and wavelet Transform. When comparing with the existing hybrid techniques the advantage of this proposed method is, only the approximation space undergoes exhaustive comparison and thereby it guarantees higher speed than the existing Hybrid techniques. IFS (Iterated function system) of detail space are calculated using the result of approximation space. Experimental results show that in the proposed method Computational overhead is considerably reduced and maintains a good tradeoff between compression ratio and quality of image. Resultant image is resolution independent, which is one of the properties of fractal image compression. Since this new technique guarantees, high compression ratio and low encoding time, it may work very
well in mobile communication, especially in facebook application.

References

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Index Terms

Computer Science Image Processing
Keywords

Affine transformation, fixed attractor, Fractal, Wavelet transform, Iterated function system