Abstract

Now a day the fractal image compression technique models a natural image using a contractive mapping called fractal mapping in the image space. Due to reducing the search complexity of matching between range block and domain block in fractal image compression is one of the most active research areas lately. There are two main characteristics of this approach are (a) It relies on the assumption that image redundancy can be efficiently captured and exploited through piecewise self-transformability on a block-wise basis, and (b) It approximates an original image by a fractal image, obtained from a finite number of iterations of an image transformation called a fractal code. This paper proposed to this approach as Fractal Block Coding. For such an application, the general problem statement is the following. For any given original discrete image specified by an array of pixels, how can a computer construct a fractal image, the coded image-which is both visually close to the original one, and has a digital representation which requires fewer bits than the original image? The proposed coding scheme carried out an approach to image coding based on a fractal theory contractive transformations defined piecewise. In experimental results show that compared with Jacquin coding scheme and our proposed coding scheme achieves an average of 89% reduction in encoding time and improves the efficiency of search. Simultaneously the compression ratio and quality of decoded images are guaranteed to the same as Jacquin coding scheme for the same images.
A Proposed Block-Coding Technique of an Image based on Fractal Compression

References

- Y. Fisher, E. W. Jacobs, and R. D. Boss,
- L. Hodges-Reuter, "Rendering and magnification of fractals using iterated...

Index Terms

Computer Science

Image Processing

Keywords

Fractals Coding Image Encoding IFS LIFS Fractal Compression