Abstract

Image compression enables us to reduce the size of the image in order to be able us to store or transmit data in an efficient form. Compressing an image is significantly different than compressing raw binary data. Of course, general purpose compression programs can be used to compress images, but the result is less than optimal. We propose an improved image compression algorithm using binary space partitioning scheme and geometric wavelets. The presented method produces the PSNR values that are competitive with the state-of-art coders in literature. The advantage of this method is the improvement in the PSNR values at high and medium bit rates. In the proposed algorithm slope intercept form of the straight line is used and
it has increased the domain of the bisecting lines and hence at each step of the BSP there is better possibility of optimal rate distortion with minimum cost functional. In order to obtain better results in distortion rate and computational complexity we replace the pruning method with genetic algorithm which out performs the existing optimization process.

References

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Index Terms

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Keywords

Binary Space Partition Scheme
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Piecewise Polynomial Approximation
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