Abstract

This paper describes a method for image compression using a fusion technique: combining wavelet transform and curvelet transform. Both the transforms when used individually shows some disadvantages. Wavelets though optimal for point singularities have limitations with directional properties. Similarly curvelets are challenged with small features. By combining both the transforms, the number of bits used to represent the image is reduced. The coefficients obtained after applying fusion technique is then selected for quantization and encoding. Quantization chosen is vector quantization as it saves time compared to scalar quantization. Vector quantization, mapping of image pixel intensity vectors into binary vectors. Arithmetic encoding technique is employed. This method is effective to remove redundancy in encoding of data. This technique works fairly well for grayscale as well as colour images.
Image Compression using Fusion Technique and Quantization

- Mikhail Shnaider and Andrew P Paplinski, "Wavelet Transform in Image Coding"; Department of Robotics and Technology, Monash University, OCTOBER 19, 1994

Index Terms

Computer Science
Signal Processing
Keywords

Image compression  curvelet transform  wavelet transform  quantization  encoding