Abstract

High quality digitized images have always been subject to high correlation: high image quality equals large file size. Image Compression is an important issue in Internet, mobile communication, digital library, digital photography, multimedia, teleconferencing and other applications. Application areas of Image Compression would focus on the problem of optimizing storage space and transmission bandwidth. Here a lossy method for image compression based on skip line encoding and curve fitting is proposed. Proposed approach involves two major processing steps: a lossless modified skip line encoding process to eliminate redundant scan lines in the image, and a lossy curve fitting based encoding for further redundancy elimination. The degree of compression is controlled based on the amount of loss that is affordable for applications making use of Peak Signal to Noise Ratio (PSNR) measure in the decision. The results obtained with the combined, modified skip line encoding and curve fitting approach, are analyzed in terms of compression ratio and PSNR. The approach provides improvements in compression ratio for all the tested images. The results obtained were found to be better than a state-of-the-art method in the literature.
- E. J. Delp, M. Saenz and Salma, article BLOCK TRUNCATION CODING (BTC), 2010.

**Index Terms**

- **Computer Science**
- **Image Processing**

**Keywords**

- binary images
- image compression
- RLE encoding
- skip-line encoding
- curve fitting