Abstract

In this paper, we have proposed a novel method of content based image retrieval using combination of color histogram and wavelet techniques. We have used RGB color space to exploit the color features of image both for color histogram and wavelet decomposition of images. F-norm theory is used to extract features from wavelet transformed image. For histogram technique Euclidean distance is used and for wavelet technique F-norm theory based criteria is used to calculate similarity. We have shown that how individual techniques perform and have given approach to use both techniques in combination. Using recall rate it is shown that results have improved when both techniques are used together. We have also implemented the system in parallel and using speedup parameter it is shown that it has reduced the processing time making it practically useful in real world applications.

References

- Felci Rajam1 and S. Valli; A Survey on Content Based Image Retrieval; Life Science Journal 2013
- A Study of Color Histogram Based Image Retrieval Rishav Chakravarti, Xiannong Meng; 2009 Sixth International Conference on Information Technology
- D. N. Verma, Vrinda Maru; and Bharti; An Efficient Approach for Color Image Retrieval Using Haar Wavelet; International Conference on Methods and Models in Computer Science, 2009
- Huihui Huang; Wei Huang; Zhigang Liu; Weirong Chen; Qingquan Qian; "Content-based color image retrieval via lifting scheme"; Autonomous Decentralized Systems, 2005. ISADS Proceedings 2005.
- Wavelets as features for object recognition; Anca Apatean, Alexandrina Rogozan, Simina Emerich, Abdelaziz Bensrjtair

Index Terms

Computer Science

Image Processing

Keywords

CBIR RGB Histogram Wavelets Haar Wavelet Parallel Threads Recall Rate etc