Abstract

Recent years have envisaged a sudden increase in the use of multimedia content like images and videos. This increase has created the problem of locating desired digital content from a
very large multimedia database. This paper presents an optimized Content Based Image Retrieval (CBIR) system that uses multiple feature fusion and matching to retrieve images from a image database. Three features, namely, color, texture and shape are used. A modified color histogram is used to extract color features, the standard DWT method was combined with Rotated Wavelet Filter (RWF) features and dual tree complex wavelet transform (DT-CWT) are combined to select texture features and active contour model is used to select the shape features. K-means and SOM algorithms are used for clustering and dimensional reduction. The similarity measure used combines spatial distance, direction distance and Euclidean distance during matching process. Experimental results prove that the proposed CBIR system is an improved version in terms of precision, recall and speed of image retrieval.

Reference

Optimized Content based Image Retrieval System based on Multiple Feature Fusion Algorithm

Conference, Big Sky, Montana, pp. 1-17, March 2009.
Optimized Content based Image Retrieval System based on Multiple Feature Fusion Algorithm

November 2002.


Index Terms

Computer Science
Pattern Recognition

Key words
Color histogram
Rotated Wavelet Filter
Dual Tree Complex Wavelet Transform
Self Organizing Map