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Abstract

Due to the revolutionary explosion of internet and digital technologies, the requisite to have a system that organizes the copiously available digital images for easy categorization and retrieval has been imposed. Nowadays, Content Based Image Retrieval (CBIR) has become a solution and source of accurate and fast retrieval.   CBIR uses the visual contents to retrieve relevant images from large databases according to user's interests. The visual contents (color, texture, shape etc) serve as the features for the images. Features are measurements of

ultimate interest analyzed from an image. In this paper, a new type of visual feature named Color-Size feature which integrates the information of both color and size of the image in terms of number of segments is proposed. Initially the images are segmented using Watershed segmentation approach. Different images would yield different number of segments that has to be taken into account for the extraction of features. From the segmented image the Color-Size features are extracted using Color-Size Histogram. Gabor texture and GLCM (Gray Level Co-occurrence Matrix) are employed to extract texture features. The feature extraction process is exercised for both the query image and images stored in database. After the extraction of mentioned features in the proposed system, the relevant images are retrieved for the given user's query image with respect to closest distance among the feature vectors. In this paper, the fusion of Color-Size with Gabor and Color-size with GLCM texture are proposed and it is deduced that the compounding of Color-Size with Gabor yields better results.

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Index Terms

Computer Science   Image Processing

Keywords

Content Based Image Retrieval; Color-size; Feature Vector; Visual Features; Watershed Approach;