عنوان مقاله:

Semantic-based image retrieval in the VQ compressed domain using image annotation statistical models

محل انتشار:

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خلاصه مقاله:

Since most of visual data is stored in the compressed form, investigating semantic retrieval techniques with the description capability of image semantics in the image compression domain is highly desirable. Regardless of the fact that content based image retrieval (CBIR) based on the Vector Quantization (VQ) compression method is more accurate than the other methods, it is expected that semantic retrieval can also be effective. Thus, the goal of this study is to develop a novel automatic image annotation method in the compressed domain. To this end, firstly the images are compressed using the VQ compression method and then are segmented into equal rectangular regions. Each region in the labelled image will be assigned a visual weight that will be calculated. In the annotation process, the relevance model which is a joint probability distribution of the word annotations and the image regional and global features vector is computed through the training set. Therefore, the unlabelled images are annotated. Finally, the image is retrieved on the basis of its semantic concepts. The experiments over 5k Corel images have shown that the retrieval performance of the method suggested here is higher than that of other methods in the uncompressed domain.

کلمات کلیدی:

Semantic-based image retrieval, Image annotation, Vector quantization, Compressed domain