

## **PERFORMANCE COMPARISON IN IMAGE RETRIEVAL USING GEOMETRIC HISTOGRAM AND K-MEANS ALGORITHM**

**K. SAKTHIVEL, T. RAVICHANDRAN AND C. KAVITHA**

### **Abstract**

An Image Retrieval System is the set of techniques for retrieving semantically relevant images from an image database based on either text or automatically derived features. Most traditional and common methods of image retrieval utilize some method of adding metadata such as captioning, keywords or descriptions to the images so that retrieval can be performed over the annotation words. Manual image annotation is time-consuming, laborious and expensive. However this approach is clearly impractical in case of very large image databases and its effectiveness is highly dependent on the subjective opinions of the experts, who are also likely to supply different descriptions for the same image. Retrieving similar images from image database using automatically derived image features or content for user specified query is an active research area. To obtain the local visual descriptors, first an image is often divided into parts. The simplest way of dividing an image is to use a partition, which cuts the image into tiles of equal size and shape. A simple partition does not generate perceptually meaningful regions but is a way of representing the global features of the image at a finer resolution. A better method is to divide the image into homogenous regions according to some criterion that are based on color and texture using region segmentation algorithms that have been extensively investigated in computer vision. The main focus of this paper is to improve the capture of regions so as to enhance retrieval performance and also to provide a better similarity distance computation.

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**Keywords:** Image retrieval, K-Means algorithm, Geometric Histogram, HAC, Object uniqueness, Similarity distance measures