

# Content Based Image Search Using Matlab

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**ABSTRACT:** Content-based image retrieval (CBIR), is a part of image processing technique for betterment of images on the basis of instinctive derived features such as color, texture and shape. However, how to make the top ranked result relevant and with diversity is challenging. The Content Based Image Retrieval (CBIR) plays an important part of image processing technique and becomes an emerging technology in the research areas. Processing potential digital image data is a major activity in all problems today. Image Retrieval system is an effective and efficient tool for managing large image databases. Content based image retrieval system allows the user to present a query image in order to retrieve images stored in the database according to their similarity to the query image.

**KEYWORDS:** Re-ranking, Content based image, Colour Correlogram, Image views, Image processing, Support Vector Machine.

## I. INTRODUCTION

The field of multimedia and image processing are nowadays surviving in the age of very advancement technologies today. The Content Based Image Retrieval (CBIR) plays an important part of image processing technique and becomes an emerging technology in the research areas. Processing potential digital image data is a major activity in all problems today. Many users are seeking suitable applications to process and retrieve the image data for the beneficial of their business concerned. They want to locate their desired images in large and varied collections. But, it is highly complicated to locate such images in a huge collection of set. So, image retrieval is the fastest developing and challenging research area with regard to both still and moving images.

Thus, the CBIR systems pay attention to image contents called 'features'. The CBIR extracts features of images to index images with little interventions of human. The feature extraction techniques are classified in various formats such as color, texture and shape. However, the texture retrieval is the most powerful and optimal technique recommended by every researcher in the field of image processing in this present scenario. The CBIR seems to be highly beneficial technique not only for the management of large numbers of image data, but also supports to various fields such as research, clinical medicine, education and visual technology. Based on the similarity measurements CBIR is aimed to retrieve desired images. The characteristics of these similarity measurements include intensity, color, texture, size, location and so on.

Content Based Image Retrieval (CBIR) is a technique which uses visual features of image such as color, shape, texture, etc. From the large database we have to find required images in the form of query. In this project a content based image retrieval method is used to retrieve query image from large image database using three features such as color, Auto Correlogram, texture etc. The main objective of this project is classification of image using Support Vector machine (SVM).

## II. PROBLEM STATEMENT

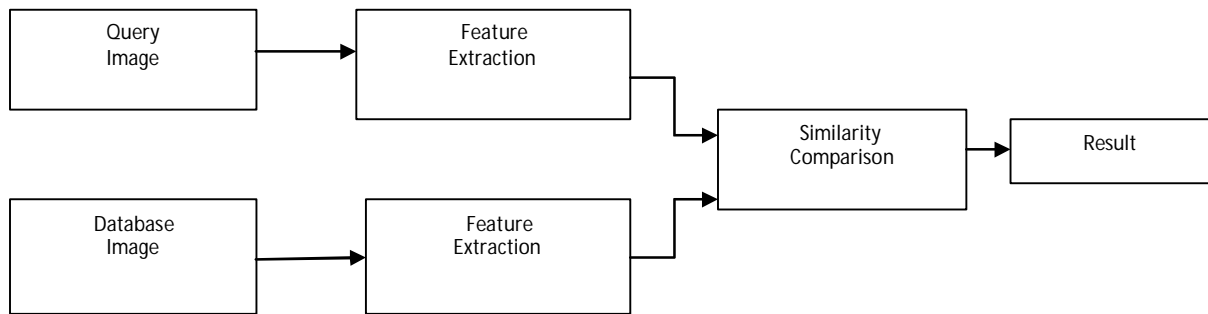
The CBIR will give more accurate results than indexing and clustering method. The content based image retrieval is to get back the most accurate image from a large dataset that will match to a query image or given image. The image feature will be extracted using a vector feature and their values are saved in a database.

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### III. DATA FLOW



**Figure. Block diagram of content based image retrieval**

Our ranking system includes three parts namely the Query image, Database image and Feature extraction as shown in the figure. In the diagram the database contains the image database that is in offline. Similarly the query image tells if you click on the query image it will get image from the (Offline) image database. And last one is feature extraction; it contains three parts namely Visual feature, Semantic feature and Views. Lastly the images, after getting the results from query image it will compare the similarities between images which image got highest intensity value that will be ranked and shown in the displayed results.

### IV. IMPLEMENTATION DETAILS

The Content based image retrieval Image Retrieval system is an effective and efficient tool for managing large image databases. Content based image retrieval system allows the user to present a query image in order to retrieve images stored in the database according to their similarity to the query image. Content Based Image Retrieval (CBIR) is a technique which uses visual features of image such as color, shape, texture, etc. In this section We implemented a feature extraction of images and we extract the visual feature, semantic feature and views for the images dataset. Semantic feature refers to the co-occurrence word set of query tags and the tags of the images.

Based on the features we extract the images and extracted images will give a ranked results. We are using two methods for implementing a ranking images those are inter user ranking and intra user ranking. The inter-user re-ranking is applied to rank the corresponding users with the consideration of their contributions to the given query and also it will remove the similar images from the same user in ranking result. Intra user re-ranking is applied on the result of inter user re-ranking.

In feature extraction there are three parts namely Visual feature, Semantic feature and Views. The visual feature refers to visual techniques that contain some features color, contrast, correlation and energy. Semantic feature contains mean, variance, standard deviation and rms value etc. Finally views, a views refers to a counting of ranked images.

## V. RESULTS



Figure. Result after obtaining the contrast value

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