Hybrid Content Based Image Retrieval: Performance improvement using Parallel Processing

Abstract:

Content-Based Image Retrieval (CBIR) is an image mining process which extracts images based on contents of the query image. CBIR is being used in several applications like medicine, digital libraries, biodiversity information systems, historical research, and crime prevention to name a few.

Generally, CBIR is implemented using either local features (texture, color, intensity, etc.) or global features (edges, points, contours, shape, etc.). Computation of local features for image retrieval gives high precision but low performance; while computation using global features gives high performance by sacrificing precision.

The proposed method uses hybrid of the above two techniques; which will help to give high performance and precision. The method also proposes use of parallel processing to decrease the retrieval time of the images. Parallel Processing distributes the computation among different threads/ processes which will help to decrease processing time as well as will be used to retrieve images from multiple datasets making task easier for various applications.

This will help to give accuracy and performance for Content Based Image Retrieval Systems.