Abstract

Content based Image Retrieval (CBIR) is the problem of searching for digital images in large databases. It is the vital application of computer vision techniques to the image retrieval problem. One inherent problem associated with Content based Image Retrieval is the response time of the system to retrieve relevant result from the image database. The Apache Hadoop software library is a framework that allows for the distributed processing of large data sets across clusters of computers. The parallel processing of Hadoop can be leveraged to efficiently retrieve images with very less response time. The proposed approach also avoids the semantic gap in image retrieval by utilizing automatic relevance feedback and meta-heuristic optimization.

Automatic relevance feedback is implemented using Latent Semantic Analysis, and Particle swarm optimization provides meta-heuristic based development. The goal of proposed approach is to – cluster relevant images using meta-heuristics in less amount of time effectively.
Distributed Retrieval of Images using Particle Swarm Optimization and Hadoop


Index Terms

Computer Science

Image Processing

Keywords

Content based Image Retrieval Latent Semantic Indexing Meta-heuristics Parallel Processing

Semantic gap