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Abstract

Content-based Image Retrieval (CBIR) is retrieving the desired images from huge collections. The user queries are becoming very specific and traditional text-based methods cannot efficiently handle them. CBIR system retrieves the image via low-level features such as color, texture and shape. In this work, we propose CBIR system that retrieves images from a database based on the semantic features of them.

Our methodology divide the query image into 100 regions. And then, extracts Features Vector from each region and label each one with the suitable concept like (Sky, Sand, Water, trunks, foliage, rocks,..., and Grass). The labeling process in performed semi-automatically using k-means clustering and KNN classification algorithms. The system has been evaluated by recall and precision measures and compared to other recent works. The results of the paper reflects the efficiency of the system for retrieving images with up to 98% recognition ratio.

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Index Terms

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Keywords

Big Data; Content-Based Image Retrieval; High-Level Semantics; Semantic Gap.