Abstract

Access to appropriate information is a fundamental necessity in the modern society. Recent years have seen a rapid growth in use of digital images. To retrieve similar images from a database Content Based Image Retrieval (CBIR) system is used. Shape is most widely used feature in CBIR system. Among various approaches of shape retrieval, edge based shape descriptors are the most commonly been used. These representations are processed via different edge estimation tools and algorithms. However in the process of edge based coding, the discontinuous edge regions result in discarding of image regions or the inclusion of such regions increases the number of processing regions. A selection of non-informative region will lead to less descriptive feature, which leads to increase in system overhead and lowering of retrieval accuracy. Contours are observed to be the best representative approach for shape descriptor. To improve the retrieval accuracy of a 3D image retrieval system, a contour based coding is developed. In this approach along with the shape feature depth feature is extracted from the contour. The proposed 3D contour Shape depth (3D CSD) approach uses less number of feature vectors for representation. Simulation observations show that 3D CSD improves the
retrieval accuracy and reduce the computation time.

References


Index Terms

Computer Science
Image Processing
Keywords

CBIR, 3D-CSD, shape feature, contour, edge.