Enhancing Content-based Image Retrieval using Moving K-Means Clustering Algorithm

Abstract

In this paper, new content-based image retrieval (CBIR) system based on color and shape feature combining with clustering concept that considers the similarities among images in database is proposed. Firstly, the color space of an image is quantized with 128 bin quantization and then color histogram is extracted from the quantized image. Secondly, the shape feature is extracted using horizontal, vertical, diagonal and anti-diagonal mask obtained by rotation of Prewitt mask. Thirdly, the moving k-means clustering algorithm is used to cluster the database images. The proposed method is tested on Wang database. Experimental results show that proposed method is more efficient and effective in image retrieving from database than existing methods.

References

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Index Terms

Computer Science

Image Processing

Keywords

CBIR  clustering  color space  color histogram  Prewitt mask