Abstract

The image retrieval problem has recently become more important and necessary because of the rapid growth of multimedia databases and digital libraries. Different search engines use different features to retrieve images from the database. In this paper, the Contourlet Transform is developed to retrieve similar images from the image database. By combining the Laplacian
pyramid and the Directional Filter Bank (DFB), a new image representation is obtained. The direction subbands coefficients are used to form a feature vector for classification. The performance of the Contourlet Transform is evaluated using standard benchmarks such as Precision and Recall. An experiment shows that the Contourlet Transform (CT) features provide the best results in Image Retrieval.

Reference

- Dr. Fuhui Long, Dr. Hongjiang Zhang and Prof. David Dagan Feng,” Fundamentals of Content-Based Image Retrieval,” Project Report
- Guojun Lu and Shyhwei Teng,” A Novel Image Retrieval Technique based on Vector Quantization,” Technical Report, Gippsland School of computing and Information Technology, Monash University, Gippsland Campus, Churchill, Vic 3842.
- Stian Edvardsen,“Classification of Images using color, CBIR Distance Measures and Genetic Programming, “Ph.D. Thesis , Master of science in Informatics, Norwegian university of science and Technology, Department of computer and Information science, June 2006.
- Rami Al-Tayeche & Ahmed Khalil,”CBIR: Content Based Image Retrieval,” Project Report, Department of systems and computer Engineering, Faculty of Engineering, Carleton University, April 4, 2003.
- Asadollah Shahbahrami , Demid Borodin , Ben Juurlink ,” Comparison Between Color and Texture Features for Image Retrieval “,Report, Faculty of Electrical Engineering, Mathematics, and Computer Science Delft University of Technology, The Netherlands
- Manesh Kokare, B.N. Chatterji and P.K. Biswas ,” Wavelet Transform Based Texture Features For Content Based Image Retrieval”, Electronics and Electrical Communication Engineering Department, Indian Institute of Technology, Kharagpur PIN 721 302, India
- Lei Zhu, Chun Tang, Aibing Rao and Aidong Zhang,”Using Thesaurus To Model Keyblock-Based Image Retrieval “, Technical Report, Department of Computer Science and
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Index Terms

Computer Science
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Content Based Image Retrieval (CBIR)
Contourlet Transform (CT)
Laplacian Pyramid (LP)
Directional Filter Bank (DFB)