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
- 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
Image Retrieval using Contourlet Transform

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Index Terms

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Content Based Image Retrieval (CBIR)

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Laplacian Pyramid (LP)

Directional Filter Bank (DFB)