Image Retrieval using Contourlet Transform

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.

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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)