Spine MRI Image Retrieval using Texture Features

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Abstract

The main intention of content based medical image retrieval (CBMIR) is to efficiently retrieve medical images that are visually similar to a query image. Medical images are usually retrieved on the basis of low level and high level features. This work deals with the concept of texture based spine MRI image retrieval in the wavelet compressed domain. We use two statistical methods such as Haralick features and texture spectrum features for spine MRI image feature extraction and project the features to a set of signatures. The obtained statistical features are classifying, according to various types of spine MRI images using k-means clustering algorithm. Then the image retrieval is carried out by calculating the distance between the signatures in the database images and the query image. This method is applied around 500 spine MRI images and improvements of retrieval efficiency are found with standard precision and recall analysis.

References

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Index Terms

Computer Science

Pattern Recognition

Keywords
Haralick Features  Texture Spectrum Features  Haar Dwt  K-means Clustering