

عنوان مقاله:

Content Based Radiographic Images Indexing and Retrieval Using Pattern Orientation Histogram

محل انتشار:

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خلاصه مقاله:

Introduction: Content Based Image Retrieval (CBIR) is a method of image searching and retrieval in a database. In medical applications, CBIR is a tool used by physicians to compare the previous and current medical images associated with patients pathological conditions. As the volume of pictorial information stored in medical image databases is in progress, efficient image indexing and retrieval is increasingly becoming a necessity. Materials and Methods: This paper presents a new content based radiographic image retrieval approach based on histogram of pattern orientations, namely pattern orientation histogram (POH). POH represents the spatial distribution of five different pattern orientations: vertical, horizontal, diagonal down/left, diagonal down/right and non-orientation. In this method, a given image is first divided into image-blocks and the frequency of each type of pattern is determined in each image-block. Then, local pattern histograms for each of these image-blocks are computed. Results: The method was compared to two well known texture-based image retrieval methods: Tamura and Edge Histogram Descriptors (EHD) in MPEG-Y standard. Experimental results based on 10000 IRMA radiography image dataset, demonstrate that POH provides better precision and recall rates compared to Tamura and EHD. For some images, the recall and precision rates obtained by POH are, respectively, FA% and IA% better than the best of the two above mentioned methods. Discussion and Conclusion: Since we exploit the absolute location of the pattern in the image as well as its global composition, the proposed matching method can retrieve semantically .similar medical images

كلمات كليدى:

Radiographic Image Retrieval, Texture Feature, Pattern Orientation Histogram

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