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CONTENT BASED MEDICAL IMAGE INDEXING AND RETRIEVAL USING A FUZZY COMPACT COMPOSITE DESCRIPTOR

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ABSTRACT

The rapid advances made in the field of radiology, the increased frequency in which oncological diseases appear, as well as the demand for prevailing medical checks, led to the creation of a large database of radiology images in every hospital or medical center. There is now an imperative need to create an effective method for the indexing and retrieval of these images. This paper proposes a new method for content based medical image retrieval. The description of images relies on a new Composite Descriptor (CD) which includes global image features, capturing both brightness and texture characteristics at the same time. Image information is extracted using a set of fuzzy approaches. To be applicable in the design of large medical image databases, the proposed descriptor is compact, requiring only 48 bytes per image. Experiments demonstrate the effectiveness of the proposed technique.

KEY WORDS

CBMIR, Image Retrieval, Fuzzy Methods, Medical Images