Abstract

In the medical field, images, and especially digital images, are produced in ever increasing quantities and used for diagnostics and therapy. Content based access to medical images for supporting clinical decision making has been proposed that would ease the management of clinical data and scenarios for the integration of content-based access methods into Picture Archiving and Communication Systems (PACS) have been created.

This article gives an overview of available literature in the field of content based access to medical image data and on the technologies used in the field. Section 1 gives
an introduction into generic content based image retrieval and the technologies used. Section 2 describes the basic algorithm used in the implemented systems. Section 3 describes various methods of implementing CBIR. New research directions are being defined that can prove to be useful.

This article also identifies explanations to some of the outlined problems in the field as it looks like many propositions for systems are made from the medical domain and research prototypes are developed in computer science departments using medical datasets. Still, there are very few systems that seem to be used in clinical practice.

Content-Based Image Retrieval (CBIR) has been a topic of research interest for nearly a decade. Approaches to date use image features for describing content. A survey of the literature shows that progress has been limited to prototype systems that make gross assumptions and approximations.

Reference

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Index Terms
Computer Science

Computer Vision
Key words

CBIR: Content based image retrieval
GFD: Generic Fourier Descriptor
KD trees: K dimensional trees.