Abstract

Medical Imaging is advancing since inception. The engineering and technology with a wide variety of research in segmentation techniques have developed a wide research domain in the field of medical and bioinformatics. Application of segmentation techniques in medical areas for detection of abnormalities has made an add-on approach for both doctors and patients for prior diagnosis and proper treatment. Medical imaging in dental analysis is based on dental radiographs which help the medical practioners in locating hidden dental structures, malignant or benign masses, bone loss, and lesions. An important step during the analysis of dental imaging is extraction of decayed tooth from the dental radiographs. These digital dental radiograph plays a crucial role in detection and further diagnosis of decayed portion in jaw. In this paper, an automated segmentation method using multiphase level set approach is proposed for segmentation of dental radiograph and extraction of region of interest. The extracted region may provide better insight to the medical practitioners during their diagnosis. The results of the proposed segmentation method are analyzed qualitatively and quantitatively and are verified by experts of the domain for various categories.
References


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Index Terms

Computer Science

Pattern Recognition

Keywords

Image-Segmentation; Intensity-Inhomogeneity; Level Set; Root Canal Treatment (RCT); lesion.