Abstract

Medical imaging acts as a significant function on medical informatics and it is listened on recognition and categorization of diseases. Variable nature of image features, such as size, shape, intensity, color, texture etc., cause complexity in the image segmentation and analysis of the image nature. To overcome the segmentation issues, our previous work presented unsupervised learning model to extract features from the medical images based on scale invariant feature transformation. This would enrich the features extracted from the medical image for segmentation. But the previous work does not discuss about the segmentation for selected spatial and hierarchical features and provides less efficiency in performance. To enhance the process, in this work, a schematic procedure is used for segmentation of images based on different sets of selected features from the unsupervised learning model of extracted features. Feature selection on the medical images is done on the basis of automatic subjective-optimality model. Subjective optimality refers to the context of image analysis to be made i.e., tumor, non-tumor, and edema dependent feature sets. The experimental performance is evaluated with benchmark data sets extracted from research repositories of both real and synthetic data sets. The performance parameter used for the analysis of the proposed feature selection on segmented image using automatic subjective optimality model are Feature transformation factor, Selection size, Image Subjective-Optimal ratio.
Feature Selection on Segmented Image using Automatic Subjective Optimality Model

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Index Terms

- Computer Science
- Pattern Recognition

Keywords

- Medical image analysis
- Feature selection
- Automatic subjective-optimality model
- Schematic procedure