Abstract

In image processing, image segmentation is one of the important tasks to extract information from the images. A variety of segmentation algorithm is developed to satisfy increasing requirement of image segmentation. Fuzzy C-Means is unsupervised method that has been applied for the variety of purposes such as clustering, classification, image segmentation and target recognition. This method can classify the image, which can be represented in various feature spaces by grouping the similar data points in the feature space into clusters. Especially the FCM can be used to obtain the segmentation with the pixel classification where this method allows pixels to be the property of multiple classes with varying degree of membership. This method can produce the flexibility in processing of Magnetic Resonance Image (MRI). In our proposed first, proposing the K-Means with FCM method and color model to improve the existing system. This algorithm is based on maximum measure of the distance function which is found for cluster center detection process using the Mahalanobis concept. The objective of this research is to develop an enhanced k-means and fuzzy c-means for a segmentation of brain magnetic resonance images. Also we are implementing the Fuzzy Membership based function to select the initial centers for the segmentation process. The firefly algorithm is implemented to optimize the Fuzzy C-means membership function for better accuracy segmentation process. At the same time the convergence criteria is fixed for the efficient
clustering method. On the whole the proposed technique produces more accurate results compare with other techniques.

References

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