Image segmentation is a part of digital image processing that deals to extract hidden patterns from the medical images. Medical image segmentation is a technique using to mean manually, fully or semi-automatically delineating the boundaries of tissue regions or an object. It is a process of changing the representation step of an image into some extent which is easy to analyze. In the recent research, cluster based, region based, threshold based and edge based approaches have been proposed. These approaches provide relational features from the image that provide various types of information. In medical science, image segmentation provides various achievements for decision making process. In the proposed work, image segmentation has been done using Hybrid PSO with multi scale super resolution approach. In the process of MSR, super resolution model has been implemented that computes gradient and sobel edges. After MSR, particle swarm optimization has been implemented that use fitness factor for computation of global fitness. After all the iterations and on the basis of global value, image has been segmented. Various parameters like PSNR, MSE, GCE, Random index, Variance and computation time have been measured for performance evaluation. The parameters show that
proposed approach provides better results.

References


Index Terms

Computer Science Image Processing
Keywords

Medical Image Segmentation, Multi scale resolution, PSO, PSNR, MSE