Abstract

This article presents the performance analysis of different segmentation techniques. Global thresholding, Adaptive thresholding, Region grow and Active contour using level set techniques has been used in this paper for proposed segmentation analysis. In this procedure flows as first by applying segmentation technique to extract ROI from image and calculate the parameters from the resulting image obtained by the applied techniques. Parameters are PSNR and MSE. Segmentation techniques have been tested on medical and synthetic data sets and results are compared with each other. Tests indicate that using level set contour significantly improves the ability of extracting region of interest with unbroken boundaries and Adaptive thresholding acquires most of the details present in the image. Global thresholding have the highest success rate of extracting the region of interest.

References

- Farzaneh Keyvanfard; Feature selection and classification of breast MRI image &quot;Artificial Intelligence and Signal Processing AISP 2011 International Symposium on (2011) pp. 54 – 58
- Joseph Rosen, &quot;Three-dimensional optical Fourier transform and correlation,&quot; Vol. 22, No. 13, Optics Letters, 964-966, July 1, 1997
- Ting-Chung Poon and Taegue Kum, &quot;Optical image recognition of three dimensional objects,&quot; Vol. 38, No. 2, Applied Optics, 370-381, 10 Jan 1999.

Index Terms
Computer Science
Signal Processing

Keywords
Global Threshold; Adaptive Threshold; Region Grow; Level Set Contour; Hybrid
Segmentation