Abstract

Breast cancer is the second leading cause of death for women all over the world. Screening mammography is currently the best available radiological technique for early detection of breast cancer. However the presence of artifacts can disturb the detection of breast cancer and reduce the rate of accuracy in the computer aided detection (CAD) systems. For this reason, the pre-processing of mammogram images is very important in the process of breast cancer analysis because it reduces the number of false positive. This paper proposes various filtering techniques to solve the noise removal problems and separate the background region from the breast profile region using an automatic thresholding technique and Connected Component.
Labelling. We evaluated our pre-processing method on a set of images obtained from a private hospital. Thus this preparation phase improves the image quality and accentuates the CAD results more accurate.

References

- Breast Cancer Facts and Figures 2009-2010, ACS.
- Jinshan Tang, Senior Member, IEEE, Rangaraj M. Rangayyan, Fellow, IEEE, Jun Xu, Issam El Naqa, Member, IEEE, and Yongyi Yang, Senior Member, IEEE &quot;Computer-Aided Detection and Diagnosis of Breast Cancer with Mammography: Recent Advances&quot;; IEEE Transaction on Information Technology on Biomedicine, VOL. 13, NO. 2 March 2009.
- D. Spurgeon, &quot;Digital mammography is more accurate only for certain groups of women;&quot; Br. Med. J. , vol. 331, no. 7518, pp. 653–653, 2005.

Index Terms

Computer Science

Image Processing

Keywords

Mammogram Thresholding Connected Component Labelling Breast Region Extraction Computer Aided Analysis

Otsu Method

Kittler Method

Wiener Filter