Abstract

Breast cancer is the most common type of cancer among women in the world. Mammography is regarded as an effective tool for early detection and diagnosis of breast cancer. Microcalcification is one of the primary signs of breast cancer. There are various image texture analysis techniques for the detection of the microcalcifications. Screen-film mammography is still the standard method used to detect early breast cancer, thus leading to early treatment. Digital mammography has recently been designated as the imaging technology with the greatest potential for improving the diagnosis of breast cancer. In this work a feature-based approach is used for analysis and classification of malignancy. Gray-level texture and Wavelet co-efficient texture methods are used for feature extraction. Probabilistic Neural Network (PNN) is used for classification of images based on extracted features. The performance of classification by PNN based on features by texture method, wavelet method and combined methods are compared. The Receiver Operating Characteristics (ROC) Analysis is used for performance evaluation.
Reference


Index Terms

Computer Science

Image Processing

Key words

Breast Cancer

Microcalcification

Gray-level texture analysis

Wavelet.