

Classification of digital mammogram based on nearest-neighbor method for breast cancer detection

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Abstrak

Breast cancer can be detected using digital mammograms. In this research study, a system is designed to classify digital mammograms into two classes, namely normal and abnormal, using the k-Nearest Neighbor (kNN) method. Prior to classification, the region of interest (ROI) of a mammogram is cropped, and the feature is extracted using the wavelet transformation method. Energy, mean, and standard deviation from wavelet decomposition coefficients are used as input for the classification. Optimal accuracy is obtained when wavelet decomposition level 3 is used with the feature combination of mean and standard deviation. The highest accuracy, sensitivity, and specificity of this method are 96.8%, 100%, and 95%, respectively.