Abstract

Breast cancer is now widespread among the women at the age of 35 and above. Initial stage of breast cancer is calcification. Mammography is the precise type of imaging source for breast cancer and calcification deposit in breast, which are usually low contrast mammogram images. This paper deals with the analysis of suspicious or intermediate coarse type of calcification in the breast. Pleomorphic is a kind of the suspicious calcification deposition in the breast, which may lead to cancerous stage, if not examined earlier. Enhancement is one of the pre-processing stage used to improvise the contrast, interpretation and perception of the image, so that calcium deposited areas in the mammogram images can be viewed evidently. Histogram equalization is most significant method for improving the visual perception of medical images. In this paper, before now proposed system of Histogram equalization technique such as RMSHE (Recursive Mean-Separate Histogram equalization), AMHE (Adaptively Modified Histogram Equalization), BPDFHE (Brightness Preserving Dynamic Histogram Equalization) were studied under experimental analysis and compared with our proposed technique such as Non-Linear Directive (NLDC) filter to progress the low-level intensity of an image. Comparison of this
Non-Linear Directive Contrast Filter for Mammogram Images to Enhance Pleomorphic Calcification

...technique with the proposed filter is necessary for deciding appropriate algorithms for enhancing the medical images. Quality evaluation factors for image enhancement like PSNR (Peak Signal to Noise Ratio), MSE (Mean Squared Error), Michelson Contrast and AMBE (Absolute Mean Brightness Error) were also analyzed for the existing and proposed technique. The proposed technique yields a better outcome than the other compared technique.

References


Index Terms
Keywords

Non-Linear, Image Enhancement, Pleomorphic Calcification, Mammogram, Histogram Equalization, Contrast, Intensity.