

## عنوان مقاله:

Noise removal from mammographic images using an improved linear mean filter in the medical image processing process

## محل انتشار:

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## خلاصه مقاله:

Background and Aim: Noise removal and correct diagnosis of tumors in breast tissue are serious challenges in diagnosing this cancer. Mammography is currently the most common way to diagnose breast cancer. There are different types of noise, each of which has a specific effect on the image, and there is a specific algorithm for removing each. In this study, using the average filter in medical image processing, we decided to be able to remove noise with better accuracy and using a new technique than in the past. Methods: In this study, using MATLAB software, mammographic noise data were entered into the program environment and the proposed improved linear mean filtering algorithm for image processing was implemented, and the ideal output was obtained due to the nature of noise. Results: The results obtained from the proposed linear mean filter method were compared and analyzed with other methods. The signal-to-noise ratio in images (PSNR) in the linear average filter used was ۳۵ dB. The linear mean filter for selected images has a higher PSNR value than other methods. In this case, the PSNR is high and there is the greatest similarity between the degenerate image and the reference image. Conclusion: Improved linear mean filter can largely neutralize the noise in the image. By using the characteristics, resolution, and contrast of mammographic images, they are almost not affected by the dehydration method, but the image noise is greatly reduced.

## کلمات کلیدی:

Noise removal, Mammographic images, Linear mean filter, Medical image processing

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