

## Noise Removal Techniques in Medical Images

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**Abstract :** Filtering is a part of image enhancement techniques, it is used to enhance certain details such as edges in the image that are relevant to the application. Additionally, filtering can even be used to eliminate unwanted components of noise. Medical images typically contain salt and pepper noise and Poisson noise. This noise appears to the presence of minute grey scale variations within the image. In this paper, different filters techniques namely (Median, Wiener, Rank order3, Rank order5, and Average) were applied on CT medical images (Brain and chest). We using all these filters to remove salt and pepper noise from these images. This type of noise consists of random pixels being set to black or white. Peak Signal to Noise Ratio (PSNR), Mean Square Error r(MSE) and Histogram were used to evaluated the quality of filtered images. The results, which we have achieved shows that, these filters, are more useful and they prove to be helpful for general medical practitioners to analyze the symptoms of the patients with no difficulty.

**Keywords :** CT imaging, median filter, adaptive filter and average filter, MATLAB

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