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## **Abstract**

In this paper a mixed noise removal framework using Robust Outlyingness ratio (ROR) statistics combined with adaptive center weighted median and detail preserving variational approach is discussed. The pixels are classified into different clusters based on the ROR statistics, which measures how impulse like each pixel is. To make the results more accurate, each cluster undergoes coarse and fine stage of noise detection and removal, which make use of ACWMF for noise detection and DPVM for restoration of noise candidates. Final stage of filtering is done by means of Non Local Means filter. Extensive simulations show that the proposed scheme consistently works well in suppressing both impulse and Gaussian noise with different noise ratios.

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## Index Terms

Computer Science

Image Processing

**Keywords**

Image Denoising   impulse noise   mixed noise   NLM Filter   ROR statistics.