Improved Median Filter using ROAD for Removal of Impulse Noise

Abstract

This paper represents a new algorithm which uses a trimmed global mean filter with ROAD to remove random impulse noise. A two step algorithm is implemented in which the first step ensure detection of corrupted pixels in the degraded image and the second step replaces the degraded image with either the median of uncorrupted pixels in the selected window and if the selected window contains noisy pixels only than trimmed global mean filter is used. To avoid computational delay and to ensure a light algorithm, the selected window is fixed [3x3] in both the detection and the filtering stage. This algorithm outperforms many filters in restoring image corrupted by random value impulse noise.

References


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Authors:

Rawat A. K
Singh J
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