Technical Program

Paper Detail

Paper: TP-L6.4
Session: Soft Computing in Image Processing: Recent Advances
Time: Tuesday, October 10, 15:20 - 15:40
Presentation: Special Session Lecture

Title: FILTERING IMAGE SEQUENCES CORRUPTED BY MIXED NOISE USING A NEW FUZZY ALGORITHM

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Abstract: In this paper, we will propose a novel fuzzy method in image sequences filtering. The proposed filter assigns adaptive weights based on exponential membership functions and use averaging filter for attenuating noise. Our proposed algorithm in image sequences filtering is much more better than the previous algorithms, specially if images are corrupted by mixed noise, our proposed method attenuates noise and preserves edges much more better than the previous methods. Our proposed fuzzy algorithm don’t need estimating motion trajectory because their assigned weights to noisy pixels are adaptive and use the correlation of pixels well enough. The proposed filter could remove mixed noise admissibly without requesting to know Gaussian noise variance or Salt & Pepper noise density. It is shown experimentally that the proposed filter can preserve image structures and edges under motion while attenuating noise, and thus can be effectively used in image sequences filtering.