**WITHOUT NOISE AND WITH FILTER fuzzy**

**Image set:**

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| **Image 1** |
| ***F:\without noise with filter\Butterfly.png*** |
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| **Image 2** |
| ***F:\without noise with filter\slices.png*** |
| **Image 3** |
| ***F:\without noise with filter\cameraman.png*** |
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| **Image 4** |
| ***C:\Users\ABC\OneDrive\Pictures\Screenshots\Screenshot (42).png*** |
| **Image 5** |
| ***F:\without noise with filter\Lenna_(test_image).png*** |
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| **Image 6** |
| ***F:\without noise with filter\fruits.png*** |
| **Image 7** |
| ***F:\without noise with filter\y108.jpg*** |
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**DATA FILES**

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| **Image 1** |
| Original image ideal values:    IM1 image entropy:5.705399e-01  IM1 image mean:0.134831  Ground truth image entropy:0.968631  Ground truth image mean:0.396113  entropy between imt and im1 :0.902564  MSE between imt and im1 :0.375391  Average Difference between imt and im1 :0.261282  Maximum Difference between imt and im1 :1.000000  True Positive values:3926.000000  False Positive values: 2880.000000  True Negative values:27603.000000  False Negative values:16069.000000  Accuracy value: 0.624609  F Measure values:0.292974  Peak Signal-to Noise Ration value: 4.255158  Signal-to Noise Ration value: -4.680295  percentage of pixels that were correctly detected (Pco): 0.196349  The percentage of pixels that were not detected (Pnd):0.803651  the percentage of false alarm: (Pfa):0.144036  Euclidean Distance Value :18.671517 |
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| **Image 2** |
| Original image ideal values:  IM1 image entropy:1.753603e-01  IM1 image mean:0.026277  Ground truth image entropy:0.596365  Ground truth image mean:0.144680  entropy between imt and im1 :0.569993  MSE between imt and im1 :0.150851  Average Difference between imt and im1 :0.118404  Maximum Difference between imt and im1 :1.000000  True Positive values:505.000000  False Positive values: 815.000000  True Negative values:42152.000000  False Negative values:6763.000000  Accuracy value: 0.849149  F Measure values:0.117606  Peak Signal-to Noise Ration value: 8.214518  Signal-to Noise Ration value: -7.408410  percentage of pixels that were correctly detected (Pco): 0.069483  The percentage of pixels that were not detected (Pnd):0.930517  the percentage of false alarm: (Pfa):0.112135  Euclidean Distance Value :6.102720 |
| **Image 3** |
| Original image ideal values:    IM1 image entropy:3.033049e-01  IM1 image mean:0.054037  Ground truth image entropy:0.717315  Ground truth image mean:0.197705  entropy between imt and im1 :0.671580  MSE between imt and im1 :0.208630  Average Difference between imt and im1 :0.143668  Maximum Difference between imt and im1 :1.000000  True Positive values:1101.000000  False Positive values: 1659.000000  True Negative values:39319.000000  False Negative values:8997.000000  Accuracy value: 0.791370  F Measure values:0.171255  Peak Signal-to Noise Ration value: 6.806227  Signal-to Noise Ration value: -5.633263  percentage of pixels that were correctly detected (Pco): 0.109031  The percentage of pixels that were not detected (Pnd):0.890969  the percentage of false alarm: (Pfa):0.164290  Euclidean Distance Value :9.984374 |
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| **Image 4** |
| Original image ideal values:  IM1 image entropy:4.359226e-01  IM1 image mean:0.089836  Ground truth image entropy:0.943520  Ground truth image mean:0.361012  entropy between imt and im1 :0.907909  MSE between imt and im1 :0.375378  Average Difference between imt and im1 :0.271175  Maximum Difference between imt and im1 :1.000000  True Positive values:9892.000000  False Positive values: 13658.000000  True Negative values:153849.000000  False Negative values:84745.000000  Accuracy value: 0.624622  F Measure values:0.167396  Peak Signal-to Noise Ration value: 4.255316  Signal-to Noise Ration value: -6.040701  percentage of pixels that were correctly detected (Pco): 0.104526  The percentage of pixels that were not detected (Pnd):0.895474  the percentage of false alarm: (Pfa):0.144320  Euclidean Distance Value :9.539069 |
| **Image 5** |
| Original image ideal values:    IM1 image entropy:2.502331e-01  IM1 image mean:0.041744  Ground truth image entropy:0.633825  Ground truth image mean:0.159798  entropy between imt and im1 :0.597098  MSE between imt and im1 :0.171879  Average Difference between imt and im1 :0.118053  Maximum Difference between imt and im1 :1.000000  True Positive values:3888.000000  False Positive values: 7055.000000  True Negative values:213199.000000  False Negative values:38002.000000  Accuracy value: 0.828121  F Measure values:0.147181  Peak Signal-to Noise Ration value: 7.647776  Signal-to Noise Ration value: -5.829740  percentage of pixels that were correctly detected (Pco): 0.092815  The percentage of pixels that were not detected (Pnd):0.907185  the percentage of false alarm: (Pfa):0.168417  Euclidean Distance Value :8.382032 |
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| **Image 6** |
| Original image ideal values:  IM1 image entropy:3.928058e-01  IM1 image mean:0.077359  Ground truth image entropy:0.815119  Ground truth image mean:0.252438  entropy between imt and im1 :0.771552  MSE between imt and im1 :0.277574  Average Difference between imt and im1 :0.175079  Maximum Difference between imt and im1 :1.000000  True Positive values:1312.000000  False Positive values: 2575.000000  True Negative values:34987.000000  False Negative values:11372.000000  Accuracy value: 0.722426  F Measure values:0.158349  Peak Signal-to Noise Ration value: 5.566207  Signal-to Noise Ration value: -5.136417  percentage of pixels that were correctly detected (Pco): 0.103437  The percentage of pixels that were not detected (Pnd):0.896563  the percentage of false alarm: (Pfa):0.203012  Euclidean Distance Value :9.431719 |
| **Image 7** |
| Original image ideal values:    IM1 image entropy:3.517551e-01  IM1 image mean:0.066246  Ground truth image entropy:0.999293  Ground truth image mean:0.484350  entropy between imt and im1 :0.989104  MSE between imt and im1 :0.459146  Average Difference between imt and im1 :0.418104  Maximum Difference between imt and im1 :1.000000  True Positive values:5107.000000  False Positive values: 2292.000000  True Negative values:55301.000000  False Negative values:48990.000000  Accuracy value: 0.540854  F Measure values:0.166092  Peak Signal-to Noise Ration value: 3.380493  Signal-to Noise Ration value: -8.640002  percentage of pixels that were correctly detected (Pco): 0.094404  The percentage of pixels that were not detected (Pnd):0.905596  the percentage of false alarm: (Pfa):0.042368  Euclidean Distance Value :8.537331 |