

Computer Vision HW8 Report

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Execution

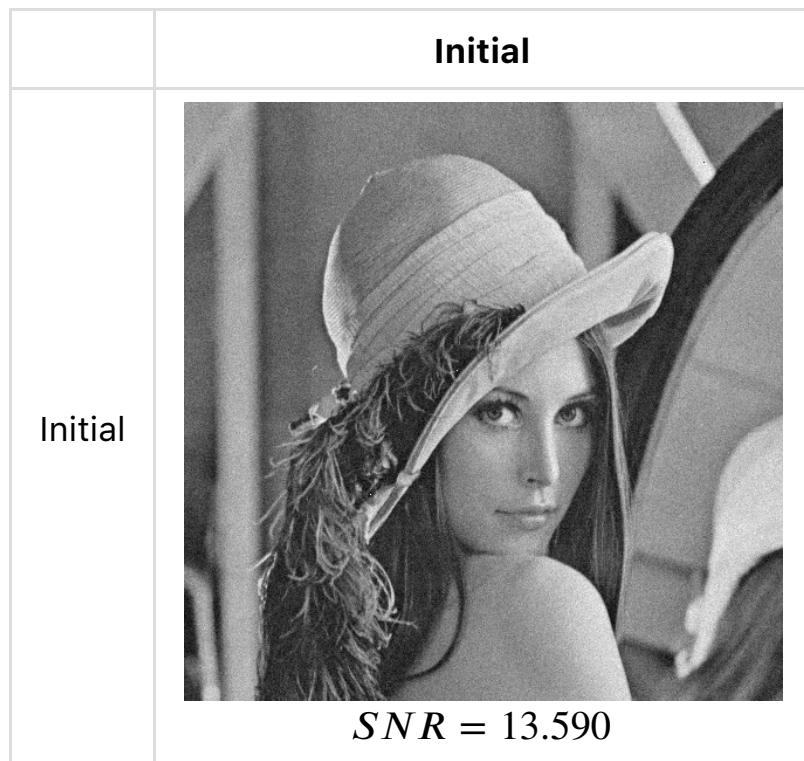
Using python 3.7

```
$ python hw8.py
```

Result

Gaussian Amplitude 10

- Initial noise image



- Box Filter and Median Filter

size filter	3x3	5x5
Box	 $SNR = 17.726$	 $SNR = 14.854$
Median	 $SNR = 17.673$	 $SNR = 15.977$

- Mathematical Morphology

Method	opening→closing	closing→opening
	 $SNR = -11.574$	 $SNR = 13.561$

Gaussian Amplitude 30

- Initial noise image

Initial	Initial
	 <p>$SNR = 2.206$</p>

- Box Filter and Median Filter

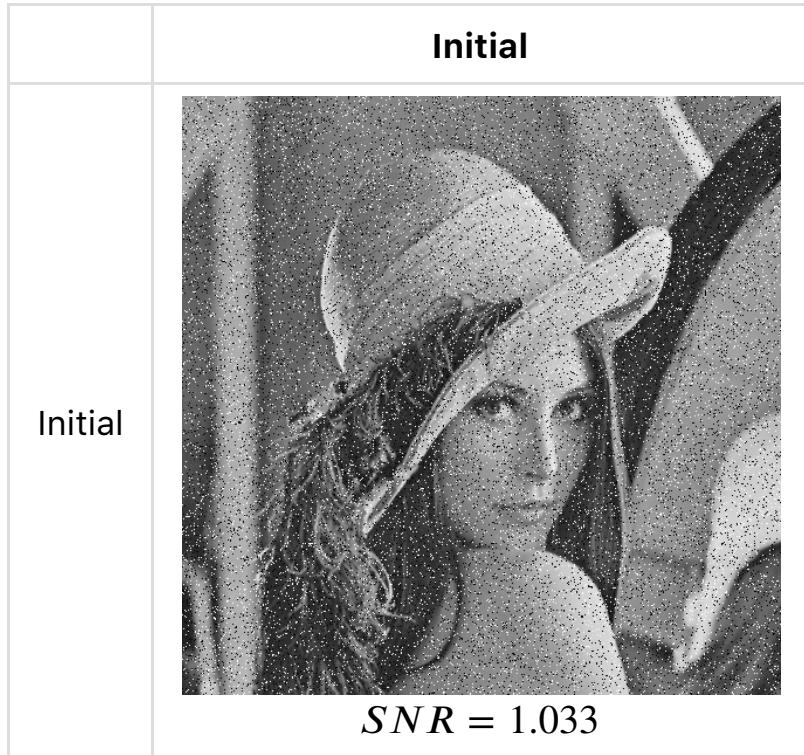
size filter	3x3	5x5
Box	 $SNR = 9.892$	 $SNR = 10.897$
Median	 $SNR = 10.728$	 $SNR = 12.468$

- Mathematical Morphology

Method	opening → closing	closing → opening
	 $SNR = -12.252$	 $SNR = 8.196$

Salt-and-pepper Probability 0.05

- Initial noise image



- Box Filter and Median Filter

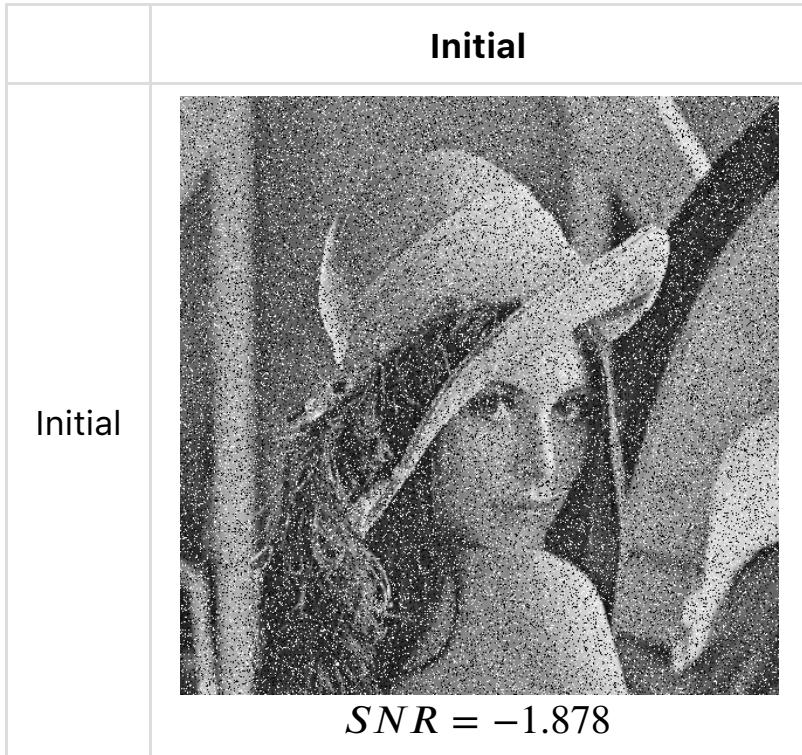
size filter	3x3	5x5
Box	 $SNR = 9.574$	 $SNR = 11.224$
Median	 $SNR = 19.203$	 $SNR = 16.334$

- Mathematical Morphology

Method	opening→closing	closing→opening
	 $SNR = -12.510$	 $SNR = 5.984$

Salt-and-pepper Probability 0.1

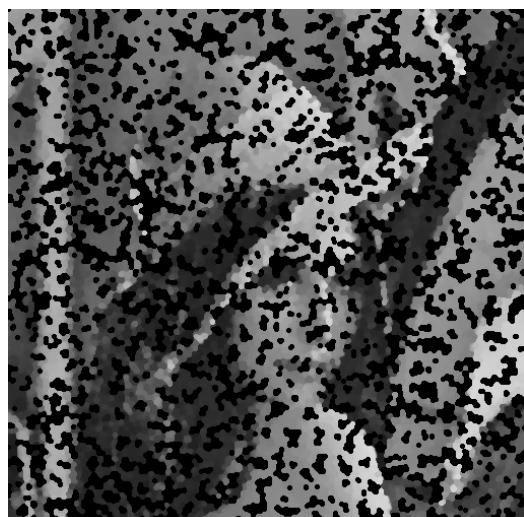
- Initial noise image



- Box Filter and Median Filter

size filter	3x3	5x5
Box	 $SNR = -0.413$	 $SNR = 0.662$
Median	 $SNR = 15.539$	 $SNR = 15.787$

- Mathematical Morphology

Method	opening→closing	closing→opening
	 $SNR = -13.573$	 $SNR = -1.834$