ex3

September 18, 2024

[1]:
```
import numpy as np
import cv2
from pathlib import Path
from skimage.util import random_noise
from scipy import signal
import skimage
```

[2]:
```
ASSETS_FOLDER_PATH = "./assets"
OUTPUT_FOLDER_PATH = "."
```

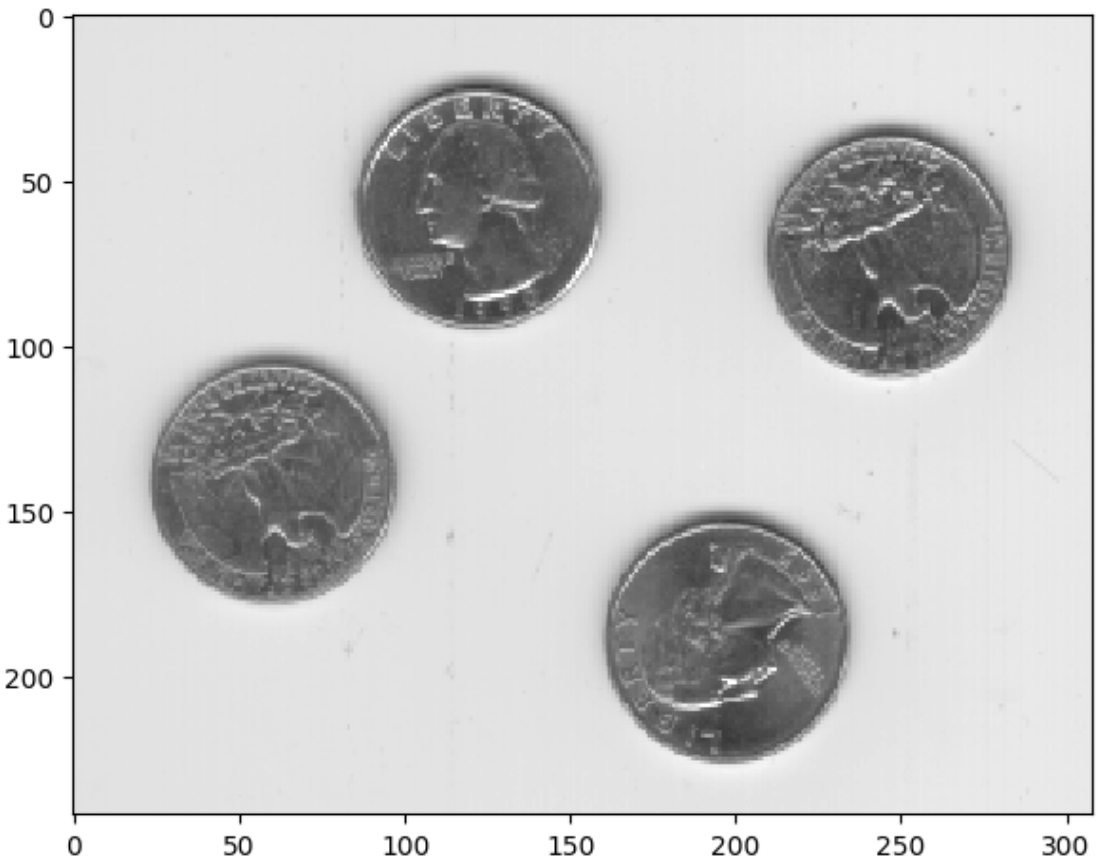
[3]:
```
Path(OUTPUT_FOLDER_PATH).mkdir(parents=True, exist_ok=True)
```

Cargamos la imagen

[4]:
```
eight = skimage.io.imread(fname=f"{ASSETS_FOLDER_PATH}/eight.tif")
```

[5]:
```
skimage.io.imshow(eight)
```

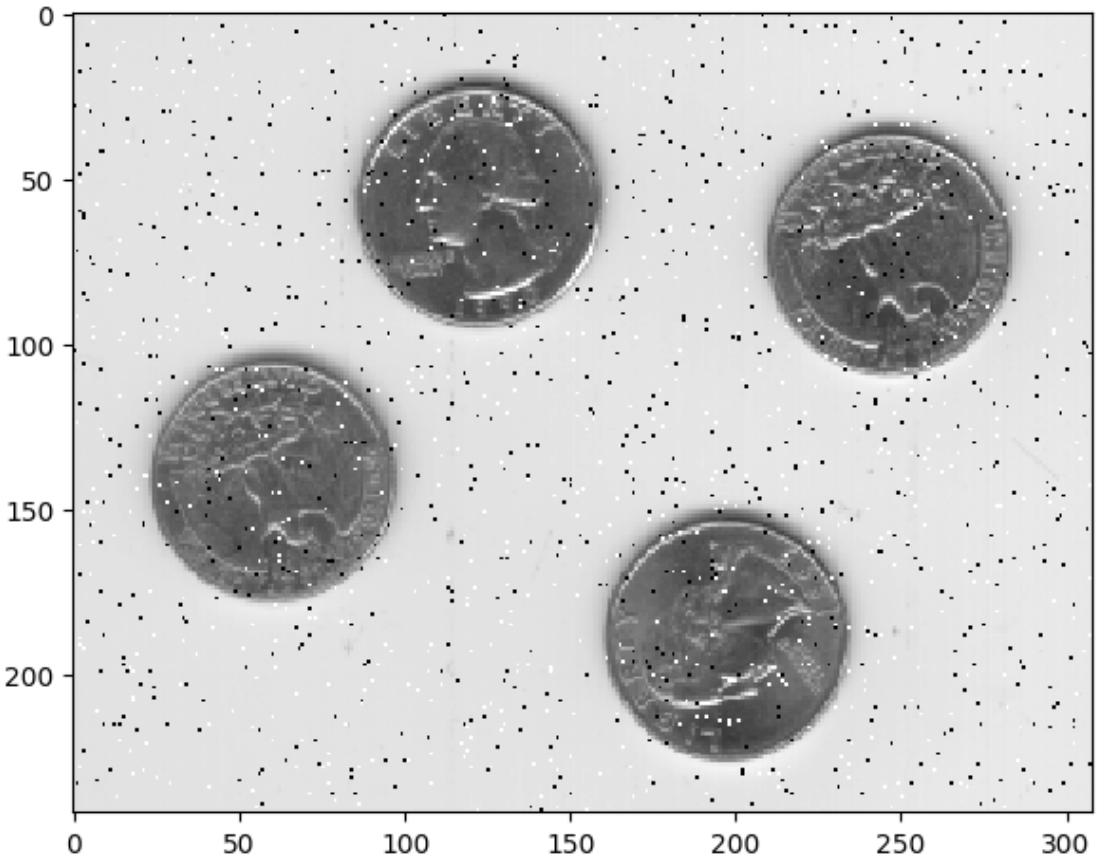
[5]:
```
<matplotlib.image.AxesImage at 0x7147602ad870>
```



[6]:
```
sp_eight = random_noise(eight, mode='s&p', amount=0.02)
```

[7]:
```
skimage.io.imshow(sp_eight)
```

[7]:
```
<matplotlib.image.AxesImage at 0x7147601b0d00>
```



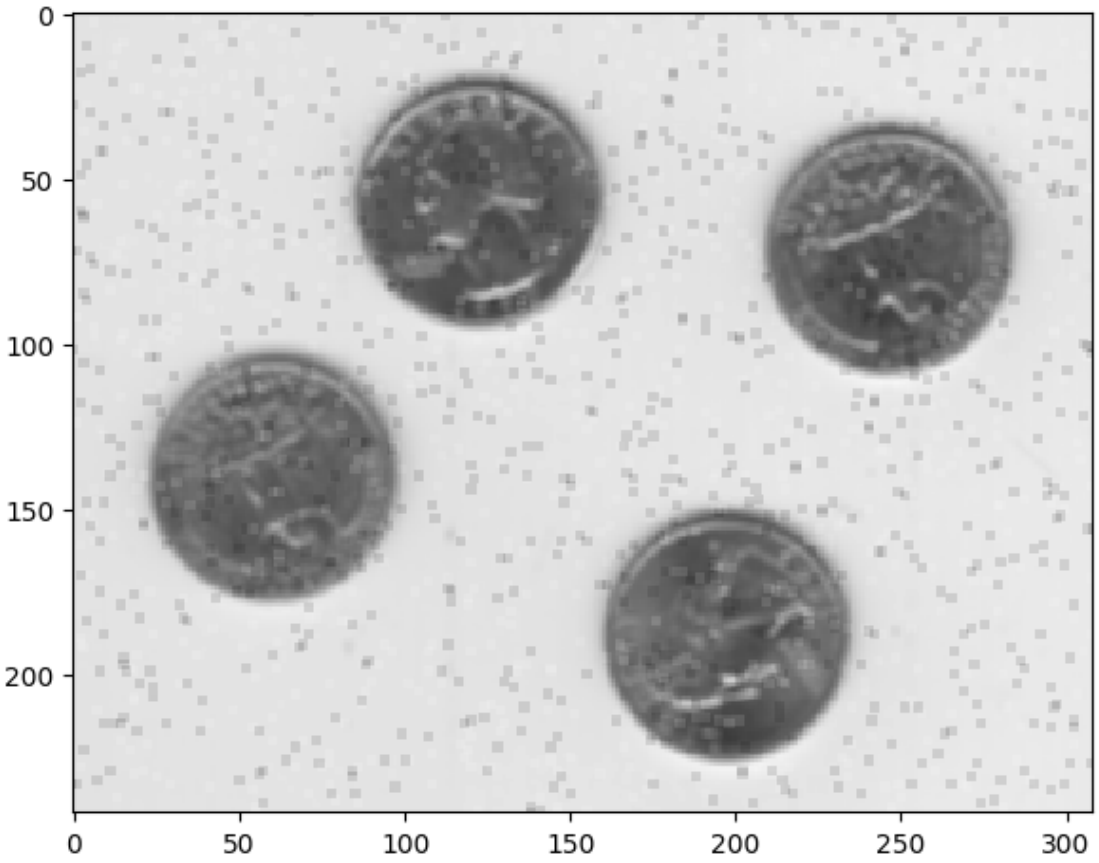
[8]:
```
average = np.ones((3, 3))
average = average / average.sum()
average
```

[8]:
```
array([[0.11111111, 0.11111111, 0.11111111],
       [0.11111111, 0.11111111, 0.11111111],
       [0.11111111, 0.11111111, 0.11111111]])
```

[9]:
```
avg_eight = cv2.filter2D(src=sp_eight, ddepth=-1, kernel=average)
```

[10]:
```
skimage.io.imshow(avg_eight)
```

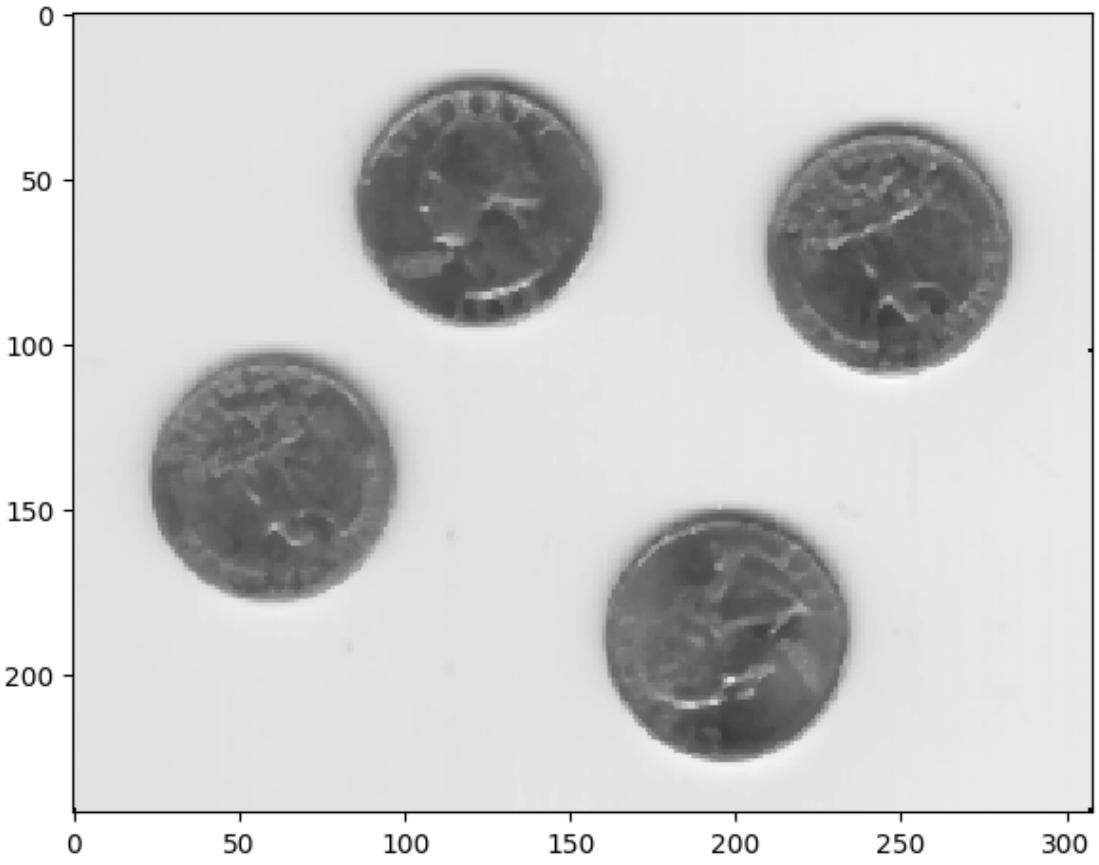
[10]:
```
<matplotlib.image.AxesImage at 0x71475dd26020>
```



[11]:
```
med_eight = signal.medfilt2d(sp_eight, kernel_size=[3, 3])
```

[12]:
```
skimage.io.imshow(med_eight)
```

[12]: <matplotlib.image.AxesImage at 0x71475dd96a40>


0
50
100
150
200
0
50
100
150
200
250
300