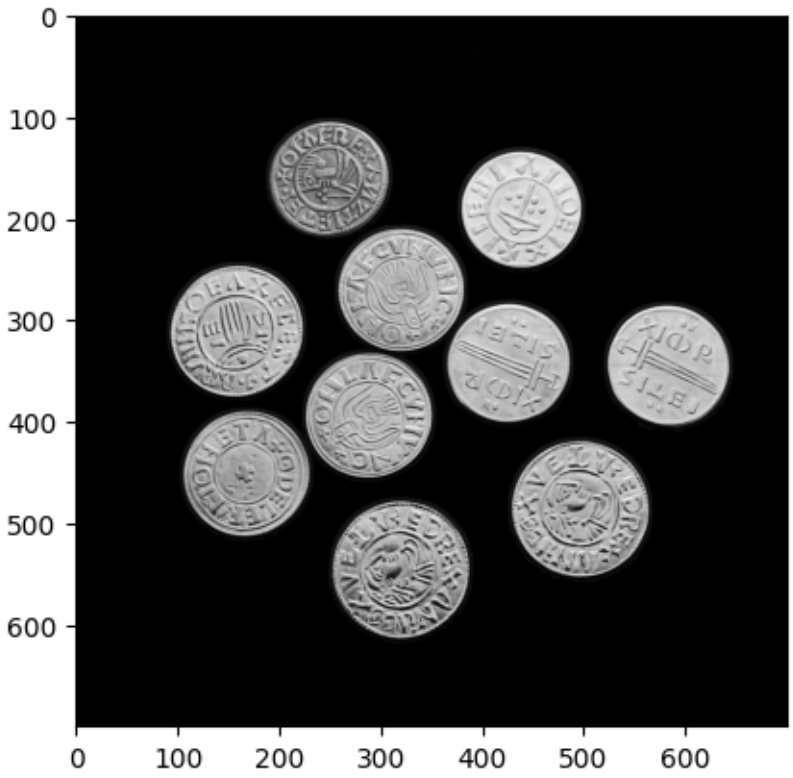
task-6-01-plate-edge

January 19, 2024

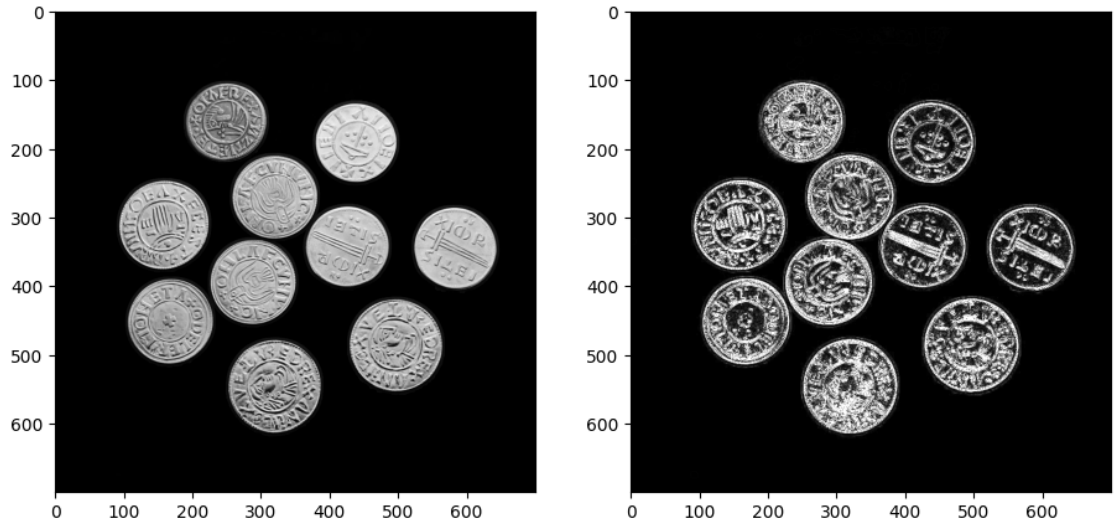
Task 6.1 | 65011428 Papinwich Asnapetch

[26]:
```
import cv2
from matplotlib import pyplot as plt
import numpy as np
```

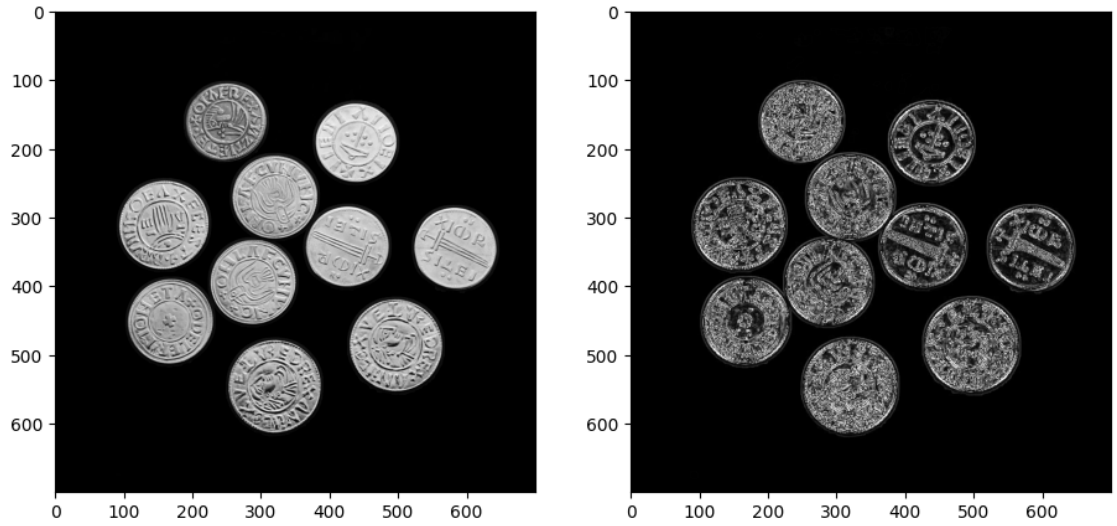
[27]:
```
# Load Image
img = cv2.imread('coins.jpg')
img = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)

plt.imshow(img, cmap='gray')

def imgDisplay(localImg):
    plt.figure(figsize= (11, 11))

    plt.subplot(1, 2, 1)
    plt.imshow(img, cmap= 'gray')

    plt.subplot(1, 2, 2)
    plt.imshow(localImg, cmap= 'gray')

    plt.show()
```



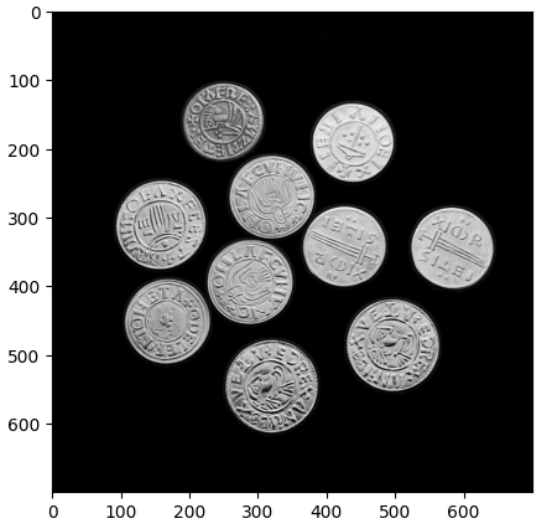
[28]:
```
# Task 6.1.1 Laplaccian

# Applied Laplaccian
lapl = cv2.Laplacian(img, cv2.CV_64F, ksize= 3)
img_Lapl = cv2.convertScaleAbs(lapl)

# Display
imgDisplay(img_Lapl)
```

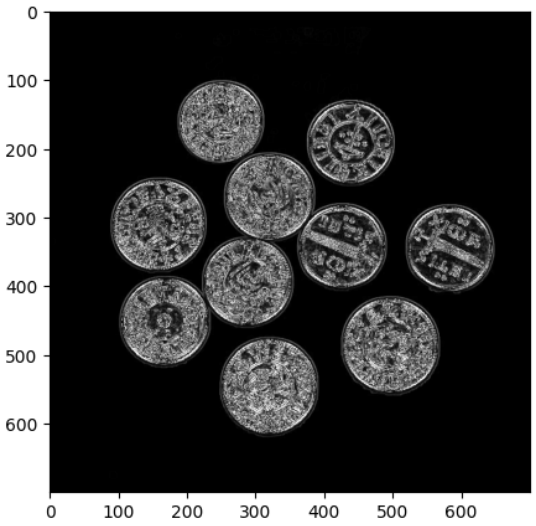


[32]:
```
# Task 6.1.2 Prewitt

# Define prewitt kernel
kernelX = np.float32([[-1, 0, 1],
                      [-1, 0, 1],
                      [-1, 0, 1]])
kernelY = np.float32([[1, 1, 1],
                      [0, 0, 0],
                      [-1, -1, -1]])

# Applied kernel
prewittX = cv2.filter2D(img, cv2.CV_16S, kernelX)
prewittY = cv2.filter2D(img, cv2.CV_16S, kernelY)

imgX = cv2.convertScaleAbs(prewittX)
imgY = cv2.convertScaleAbs(prewittY)

# Combine matric
img_prewitt = imgX + imgY

# Display
imgDisplay(img_prewitt)
```



[33]:
```
# Task 6.1.3 Sobel

# Applied sobel
sobelx = cv2.Sobel(img, cv2.CV_16S, 1, 0, ksize= 3)
sobely = cv2.Sobel(img, cv2.CV_16S, 0, 1, ksize= 3)

imgX = cv2.convertScaleAbs(sobelx)
imgy = cv2.convertScaleAbs(sobely)

# Combine matric
img_sobel = imgX + imgY

# Display
imgDisplay(img_sobel)
```


0
100
200
300
400
500
600
0
100
200
300
400
500
600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