

task-8-01

February 9, 2024

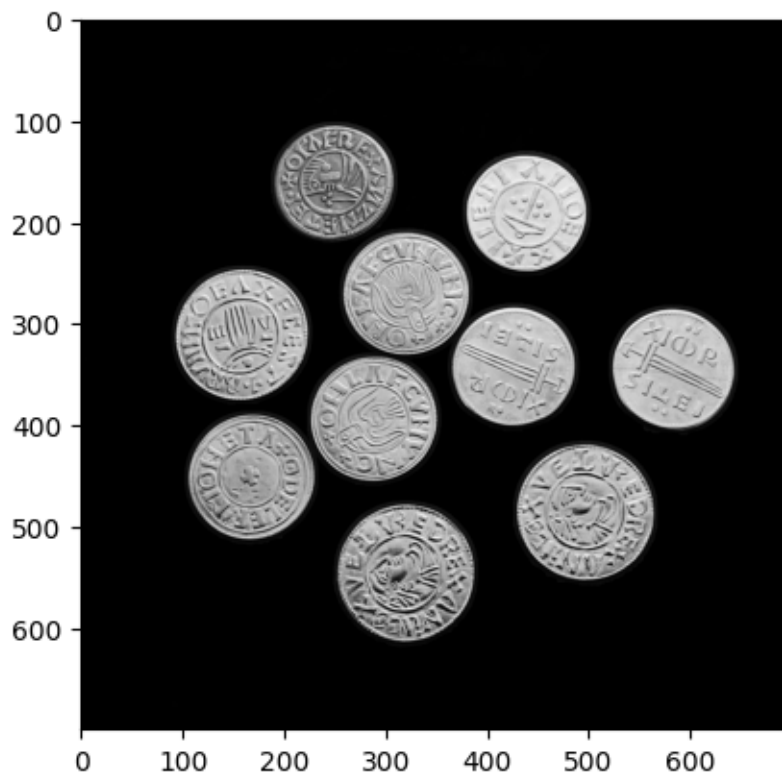
Task 8.1 | 65011428 Papinwich Asnapetch

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

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

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

```
[73]: <matplotlib.image.AxesImage at 0x17823949310>
```



```
[74]: # Pre process

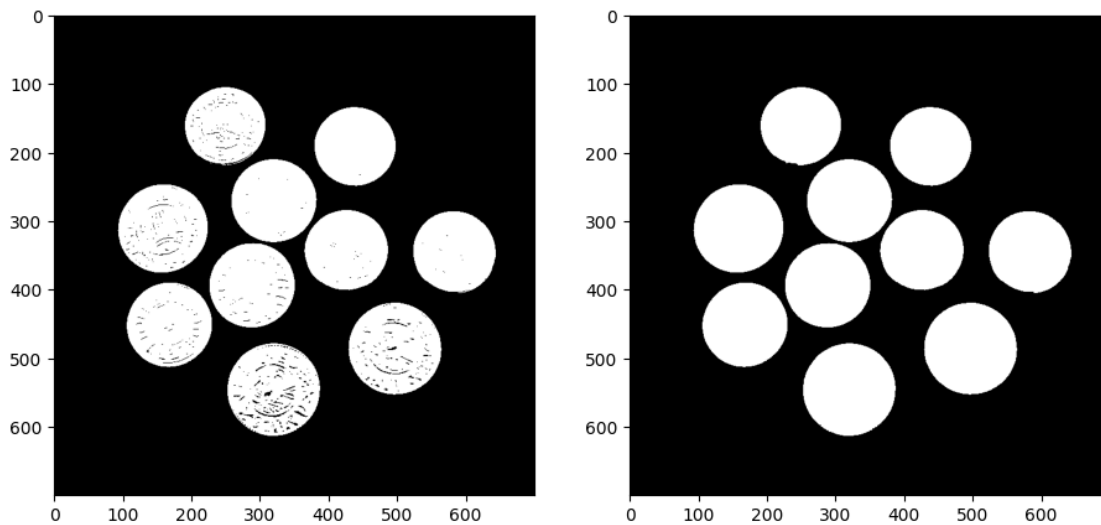
# Thresholding
_, img_thr = cv2.threshold(img, 45, 50, cv2.THRESH_BINARY)

# Closing
img_closed = cv2.morphologyEx(img_thr, cv2.MORPH_CLOSE,
                               np.ones((3,3), np.uint8),
                               iterations= 2)

# Display
plt.figure(figsize= (11,11))
plt.subplot(1, 2, 1)
plt.imshow(img_thr, cmap= 'gray')

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

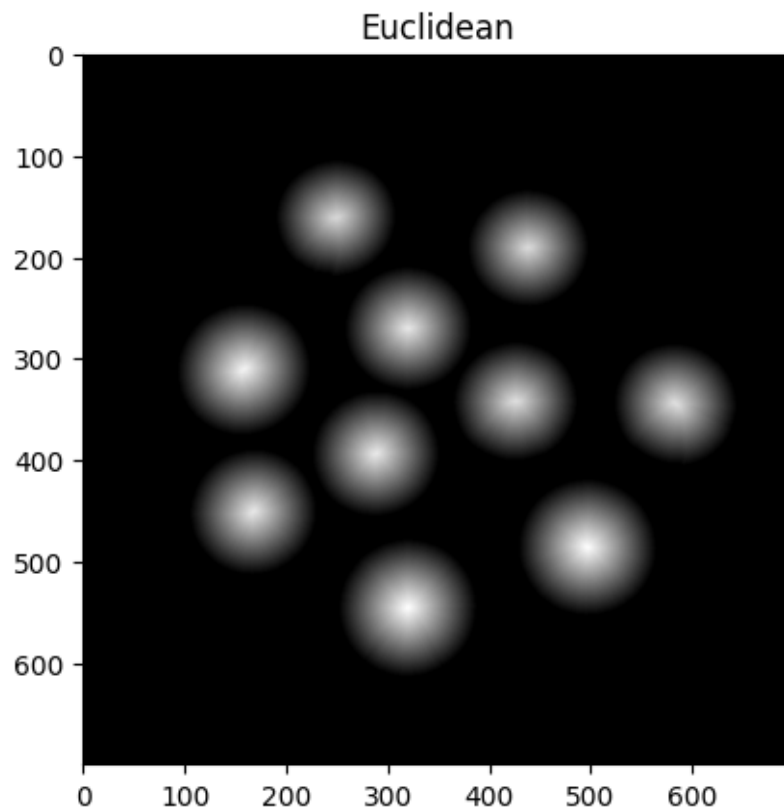
[74]: <matplotlib.image.AxesImage at 0x17824330940>



```
[75]: ### -- Euclidean
# Apply distance transform
dist = cv2.distanceTransform(img_closed, cv2.DIST_L2, 5)
cv2.normalize(dist, dist, 0, 1.0, cv2.NORM_MINMAX)

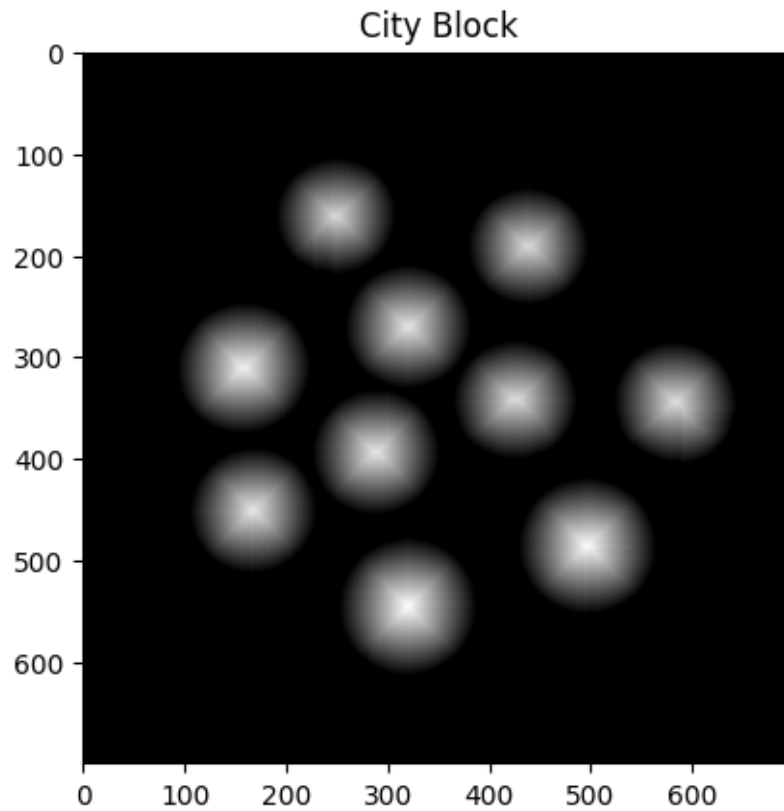
# Display
plt.title('Euclidean')
plt.imshow(dist, cmap='gray')
```

[75]: <matplotlib.image.AxesImage at 0x178239844f0>



```
[76]: ### -- City Block  
# Apply distance transform  
dist = cv2.distanceTransform(img_closed, cv2.DIST_L1, 5)  
cv2.normalize(dist, dist, 0, 1.0, cv2.NORM_MINMAX)  
  
# Display  
plt.title('City Block')  
plt.imshow(dist, cmap='gray')
```

[76]: <matplotlib.image.AxesImage at 0x17823907a60>



```
[77]: ### -- Chess Board  
# Apply distance transform  
dist = cv2.distanceTransform(img_closed, cv2.DIST_C, 5)  
cv2.normalize(dist, dist, 0, 1.0, cv2.NORM_MINMAX)  
  
# Display  
plt.title('Chess Board')  
plt.imshow(dist, cmap='gray')
```

```
[77]: <matplotlib.image.AxesImage at 0x178243bf430>
```

