import cv2

import numpy as np

import matplotlib.pyplot as plt

image = cv2.imread('coins.jpg', cv2.IMREAD\_GRAYSCALE)

f = np.float32(image)

dft = cv2.dft(f, flags=cv2.DFT\_COMPLEX\_OUTPUT)

dft\_shift = np.fft.fftshift(dft)

magnitude\_spectrum = 20 \* np.log(cv2.magnitude(dft\_shift[:, :, 0], dft\_shift[:, :, 1]))

plt.subplot(121), plt.imshow(image, cmap='gray')

plt.title('Input Image'), plt.xticks([]), plt.yticks([])

plt.subplot(122), plt.imshow(magnitude\_spectrum, cmap='gray')

plt.title('Magnitude Spectrum'), plt.xticks([]), plt.yticks([])

plt.show()