import cv2

import numpy as np

from matplotlib import pyplot as plt

img = cv2.imread('car.jpg', cv2.IMREAD\_GRAYSCALE)

def sobel\_operator(img):

sobelx = cv2.Sobel(img, cv2.CV\_64F, 1, 0, ksize=5)

sobely = cv2.Sobel(img, cv2.CV\_64F, 0, 1, ksize=5)

gradient\_magnitude = np.sqrt(sobelx\*\*2 + sobely\*\*2)

return gradient\_magnitude

sobel\_filtered = sobel\_operator(img)

def laplacian\_operator(img):

return cv2.Laplacian(img, cv2.CV\_64F)

laplacian\_filtered = laplacian\_operator(img)

plt.figure(figsize=(10, 5))

plt.subplot(1, 2, 1), plt.imshow(sobel\_filtered, cmap='gray')

plt.title('Sobel Operator'), plt.xticks([]), plt.yticks([])

plt.subplot(1, 2, 2), plt.imshow(laplacian\_filtered, cmap='gray')

plt.title('Laplacian Operator'), plt.xticks([]), plt.yticks([])

plt.tight\_layout()

plt.show()