import numpy as np

import cv2

from matplotlib import pyplot as plt

# Read the image

img = cv2.imread('c:\zzzzz.jpg')

# Split channels and convert to RGB

b, g, r = cv2.split(img)

rgb\_img = cv2.merge([r, g, b])

# Convert the image to grayscale

gray = cv2.cvtColor(img, cv2.COLOR\_BGR2GRAY)

# Thresholding using Otsu's method

ret, thresh = cv2.threshold(gray, 0, 255, cv2.THRESH\_BINARY\_INV + cv2.THRESH\_OTSU)

# Closing operation

kernel\_closing = np.ones((5, 5), np.uint8)

closing = cv2.morphologyEx(thresh, cv2.MORPH\_CLOSE, kernel\_closing)

# Dilation operation

kernel\_dilation = np.ones((3, 3), np.uint8)

sure\_bg = cv2.dilate(closing, kernel\_dilation, iterations=2)

# Plotting the results

plt.subplot(211), plt.imshow(closing, 'gray')

plt.title("morphologyEx: Closing: 5x5"), plt.xticks([]), plt.yticks([])

plt.subplot(212), plt.imshow(sure\_bg, 'gray')

plt.title("Dilation: 3x3, iterations=2"), plt.xticks([]), plt.yticks([])

plt.tight\_layout()

plt.show()

output:

