

DSA0210 Computer Vision with Open CV LAB Experiments

Experiment- 25: Morphological operations based on OpenCV using Dilation technique.

PROGRAM:

```
import cv2

import numpy as np

import matplotlib.pyplot as plt

# Read the input image

img = cv2.imread(r"D:\New Folder\input.jpeg")

# Check if image is loaded

if img is None:

    raise FileNotFoundError("Image not found. Check the file path.")

# Convert image to grayscale

gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)

# Create structuring element (kernel)

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

# Apply dilation

dilated = cv2.dilate(gray, kernel, iterations=1)

# Display images

plt.figure(figsize=(8, 4))

plt.subplot(1, 2, 1)

plt.imshow(gray, cmap="gray")
```

```
plt.title("Original Grayscale Image")
```

```
plt.axis("off")
```

```
plt.subplot(1, 2, 2)
```

```
plt.imshow(dilated, cmap="gray")
```

```
plt.title("Dilated Image")
```

```
plt.axis("off")
```

```
plt.tight_layout()
```

```
plt.show()
```

OUTPUT:

