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FDVIP Lab

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AIM - To study and perform line and edge detection using OpenCV

1. Vertical and Horizontal Line Detection
2. Hough Line Detection
3. Canny Edge Detection

Importing Dependencies

```
import cv2
import matplotlib.pyplot as plt
import numpy as np
```

Reading Image

```
image = cv2.imread('images/lines.jpg', 0)
```

Vertical and Horizontal Line Detection

1. Vertical Line Detection

```
kernel = np.ones((11, 3), np.uint8)

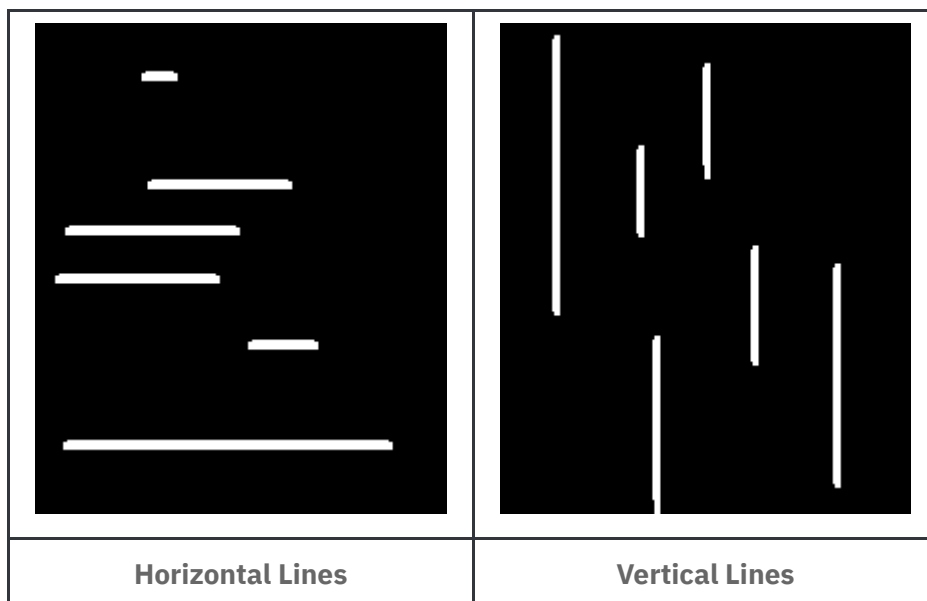
verticalLines = cv2.erode(img, kernel, iterations=1)
```

2. Horizontal Line Detection

```
kernel = np.ones((2, 19), np.uint8)

horizontalLines = cv2.erode(img, kernel, iterations=1)
```

Output



Hough Line Detection

```
edges = cv2.Canny(img, 100, 150)
lines = cv2.HoughLinesP(edges, 1, np.pi / 180, 30, maxLineGap=50)

for line in lines:
    x1, y1, x2, y2 = line[0]
    cv2.line(img, (x1, y1), (x2, y2), (0, 0, 128), 1)
```

Output



Lines



Edges

Canny Edge Detection

```
edges = cv2.Canny(img, 100, 150)
```

Output



Canny Edges

