

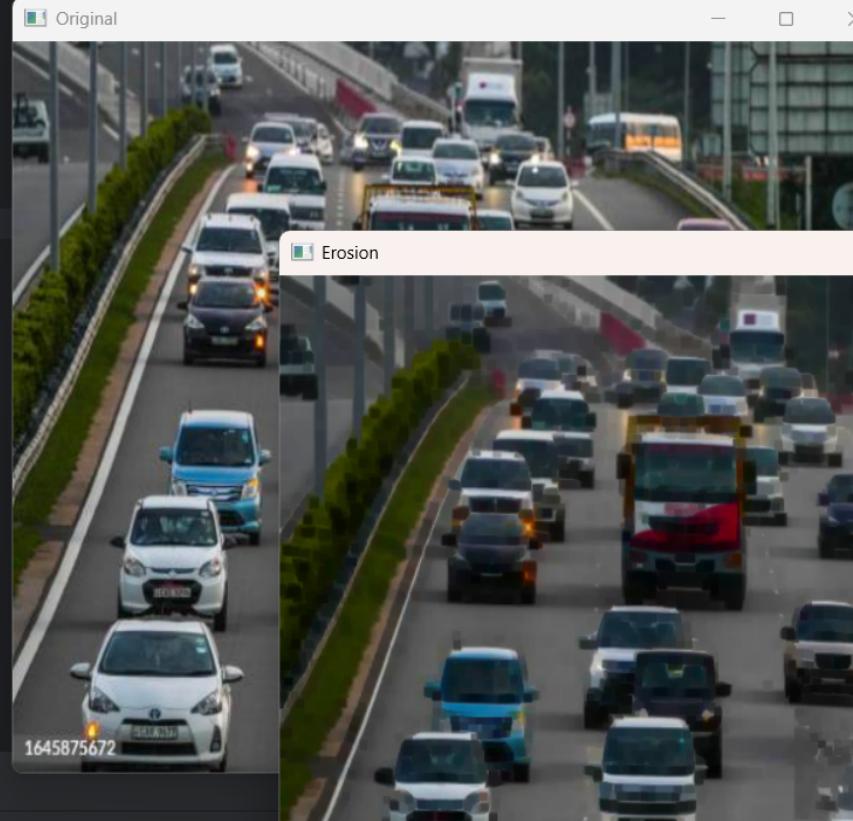
OC OpenCv Version control Current File

cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py cv_12.py Dilation

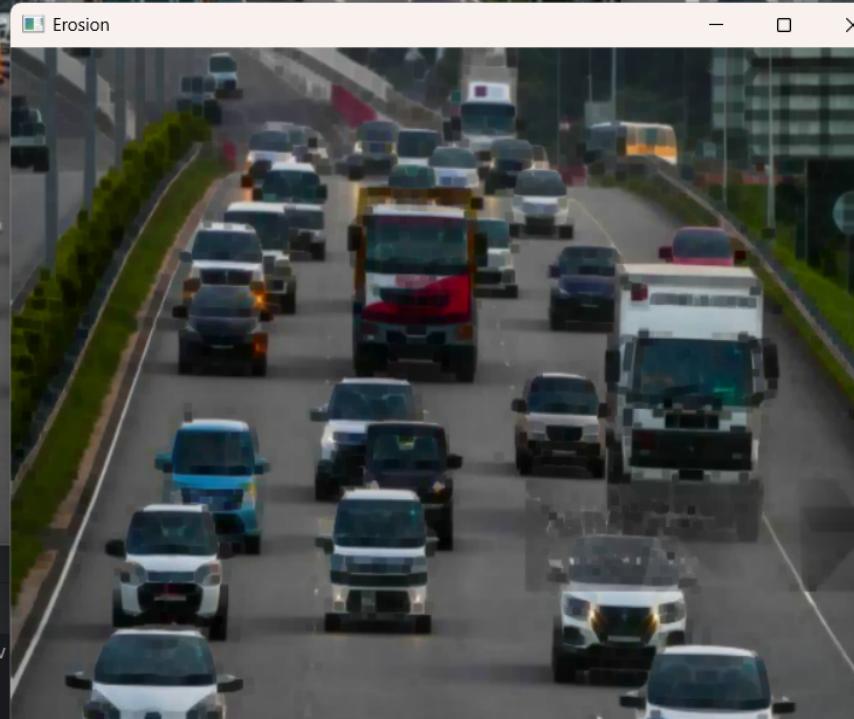
Maximize your efficiency with numpy

```
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
5 w=600
6 h=500
7 dim=(w,h)
8 resized = cv2.resize(img,dim)
9
10 kernel = np.ones((5,5),dtype='uint8')
11
12 erosion =cv2.erode(resized,kernel, iterations=1)
13 dilation=cv2.dilate(resized,kernel, iterations=1)
14 # opening = cv2.morphologyEx(resized,cv2.MORPH_OPEN, kernel)
15 # closing = cv2.morphologyEx(resized,cv2.MORPH_CLOSE,kernel)
16 # gradient = cv2.morphologyEx(resized,cv2.MORPH_GRADIENT,kernel)
17 tophat = cv2.morphologyEx(resized, cv2.MORPH_TOPHAT,kernel)
18 blackhat = cv2.morphologyEx(resized,cv2.MORPH_BLACKHAT,kernel)
19 cv2.imshow( winname: "Original",resized)
20 cv2.imshow( winname: "Erosion", erosion)
21 cv2.imshow( winname: "Dilation", dilation)
22 # cv2.imshow("Opening",opening)
23 # cv2.imshow("closing", closing)
24 # cv2.imshow("Gradient", gradient)
25 #cv2.imshow("Tophat", tophat)
26 #cv2.imshow("Blackhat", blackhat)
27 cv2.waitKey(0)
28 cv2.destroyAllWindows()
```

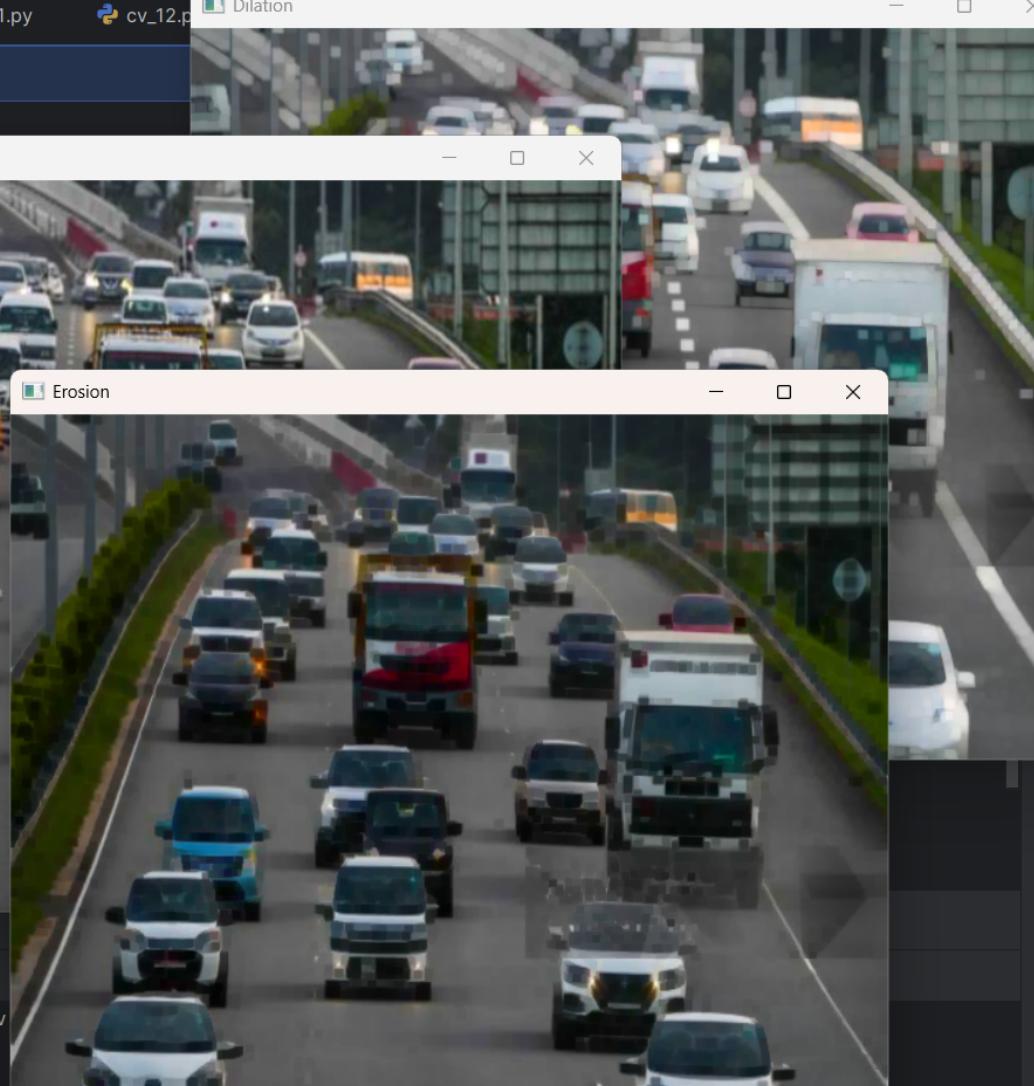
Original



Erosion



Dilation



Run cv

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv

Search

3:04:09 PM 4/17/2025

OC OpenCv Version control

cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py

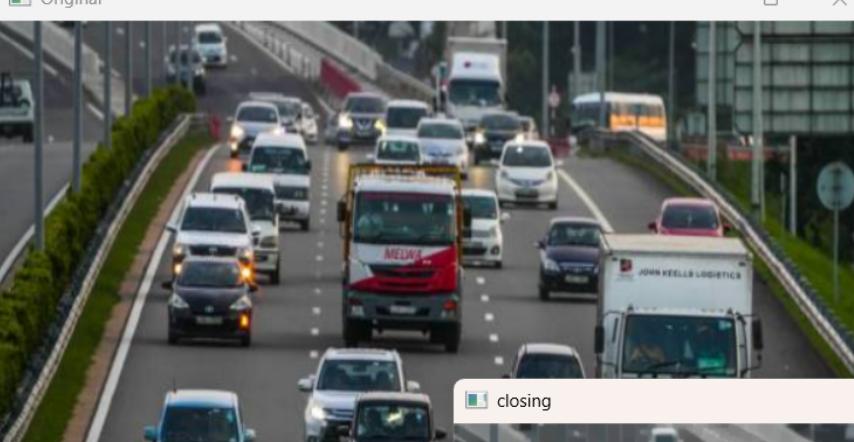
Maximize your efficiency with numpy

```
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/Desktop/img.jpg")
5 w=600
6 h=500
7 dim=(w,h)
8 resized = cv2.resize(img,dim)
9
10 kernel = np.ones((5,5),dtype='uint8')
11
12 #erosion =cv2.erode(resized,kernel, iterations=1)
13 #dilation=cv2.dilate(resized,kernel, iterations=1)
14 opening = cv2.morphologyEx(resized,cv2.MORPH_OPEN, kernel)
15 closing = cv2.morphologyEx(resized,cv2.MORPH_CLOSE,kernel)
16 # gradient = cv2.morphologyEx(resized,cv2.MORPH_GRADIENT,kernel)
17 tophat = cv2.morphologyEx(resized, cv2.MORPH_TOPHAT,kernel)
18 blackhat = cv2.morphologyEx(resized,cv2.MORPH_BLACKHAT,kernel)
19 cv2.imshow( winname: "Original",resized)
20 #cv2.imshow("Erosion", erosion)
21 #cv2.imshow("Dilation", dilation)
22 cv2.imshow( winname: "Opening",opening)
23 cv2.imshow( winname: "closing", closing)
24 # cv2.imshow("Gradient", gradient)
25 #cv2.imshow("Tophat", tophat)
26 #cv2.imshow("Blackhat", blackhat)
27 cv2.waitKey(0)
28 cv2.destroyAllWindows()
```

Run cv

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\

Original

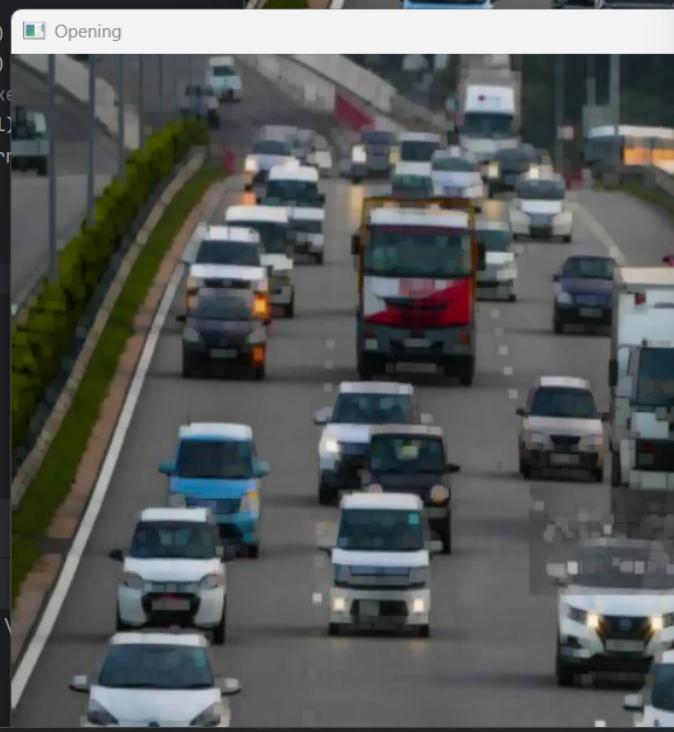


car.jpeg

Professional Dismiss

✓ 1 ^ ~

Opening



closing



3:07:01 PM 4/17/2025

OC OpenCv Version control

Current File

cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py cv_12.py Output.avi cv_13.py cv.py car.jpeg

Maximize your efficiency with numpy Try PyCharm Professional Dismiss

```
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
5 W=600
6 h=500
7 dim=(w,h)
8 resized = cv2.resize(img,dim)

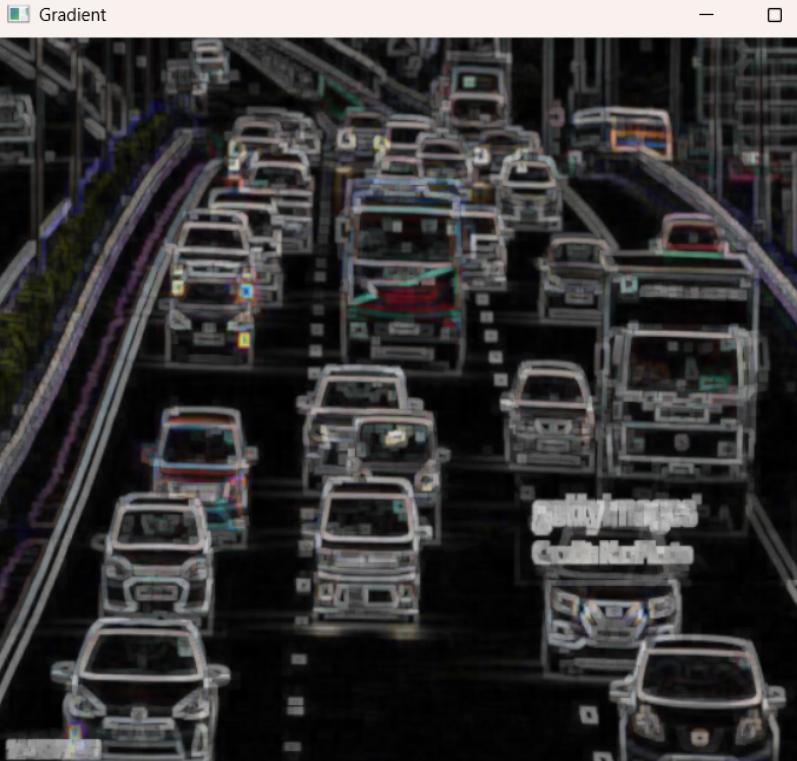
9
10 kernel = np.ones((5,5),dtype='uint8')

11
12 #erosion =cv2.erode(resized,kernel, iterations=1)
13 #dilation=cv2.dilate(resized,kernel, iterations=1)
14 #opening = cv2.morphologyEx(resized,cv2.MORPH_OPEN,
15 #closing = cv2.morphologyEx(resized,cv2.MORPH_CLOSE,
16 gradient = cv2.morphologyEx(resized,cv2.MORPH_GRADIE
17 tophat = cv2.morphologyEx(resized, cv2.MORPH_TOPHAT,
18 blackhat = cv2.morphologyEx(resized,cv2.MORPH_BLACKH
19 cv2.imshow( winname: "Original",resized)
20 #cv2.imshow("Erosion", erosion)
21 #cv2.imshow("Dilation", dilation)
22 #cv2.imshow("Opening",opening)
23 #cv2.imshow("closing", closing)
24 cv2.imshow( winname: "Gradient", gradient)
25 #cv2.imshow("Tophat", tophat)
26 #cv2.imshow("Blackhat", blackhat)
27 cv2.waitKey(0)
28 cv2.destroyAllWindows()
```

Original



Gradient



Run cv

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv.py

Hot weather Now

Search

13

3:08:22 PM 4/17/2025

OC OpenCv Version control

cv_5.py cv_6.py cv_7.py cv

Maximize your efficiency with numpy

```
4 img = cv2.imread("C:/Users/Yashit/OneDrive/100-Days-of-Python/Day 10 - Computer Vision with OpenCV/Project - Traffic Sign Recognition/Images/traffic.jpg")
5 w=600
6 h=500
7 dim=(w,h)
8 resized = cv2.resize(img,dim)
9
10 kernel = np.ones((5,5),dtype='uint8')
11
12 #erosion =cv2.erode(resized,kernel, iterations=1)
13 #dilation=cv2.dilate(resized,kernel, iterations=1)
14 #opening = cv2.morphologyEx(resized,cv2.MORPH_OPEN, kernel, iterations=1)
15 #closing = cv2.morphologyEx(resized,cv2.MORPH_CLOSE, kernel, iterations=1)
16 #gradient = cv2.morphologyEx(resized,cv2.MORPH_GRADIENT, kernel, iterations=1)
17 tophat = cv2.morphologyEx(resized, cv2.MORPH_TOPHAT)
18 blackhat = cv2.morphologyEx(resized, cv2.MORPH_BLACKHAT)
19 cv2.imshow( winname: "Original",resized)
20 #cv2.imshow("Erosion", erosion)
21 #cv2.imshow("Dilation", dilation)
22 #cv2.imshow("Opening",opening)
23 #cv2.imshow("closing", closing)
24 #cv2.imshow("Gradient", gradient)
25 cv2.imshow( winname: "Tophat", tophat)
26 cv2.imshow( winname: "Blackhat", blackhat)
27 cv2.waitKey(0)
28 cv2.destroyAllWindows()
```

Run cv

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\

Start

Hot weather Now

Tophat

Blackhat

Original

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3:09:30 PM 4/17/2025

OC OpenCv Version control

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py

```
1 import cv2
2
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
5 w=600
6 h=500
7 dim=(w,h)
8 resized = cv2.resize(img,dim)
9 print("size of img in bytes:", img.size)
10
11 cv2.imshow( winname: "Orig", resized)
12
13 flip_hor=cv2.flip(resized, flipCode: 1)# 1-> for horizontal flip
14 # cv2.imshow("hort", flip_hor)
15 flip_vertical = cv2.flip(resized, flipCode: 0)# 0-> for vertical flip
16 # cv2.imshow("vert",flip_vertical)
17 flip_hANDv=cv2.flip(resized,-1)# -1-> for horizontal and vertical both
18 cv2.imshow( winname: "Horiz&Vertical",flip_hANDv)
19 cv2.waitKey(0)
20 cv2.destroyAllWindows()
```

Run cv_2

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_2.py

size of img in bytes: 749088

Orig

put.avi

2

gettyimages Credit: NurPhoto

1645875672

Horiz&Vertical

gettyimages Credit: NurPhoto

1645875672

Sports headline Caicedo to stay... 3:10:58 PM 4/17/2025

OC OpenCv Version control

Current File

cv_2.py cv_3.py cv_4.py cv_5.py

```
1 import cv2
2
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/
5 w=600
6 h=500
7 dim=(w,h)
8 resized = cv2.resize(img,dim)
9 print("size of img in bytes:", img.size)
10
11 cv2.imshow( winname: "Orig", resized)
12
13 flip_hor=cv2.flip(resized, flipCode: 1)# 1-> for horiz
14 cv2.imshow( winname: "hort", flip_hor)
15 flip_vertical = cv2.flip(resized, flipCode: 0)# 0-> fo
16 cv2.imshow( winname: "vert",flip_vertical)
17 flip_hANDv=cv2.flip(resized,-1)# -1-> for horizontal
18 #cv2.imshow("Horiz&Vertical",flip_hANDv)
19 cv2.waitKey(0)
20 cv2.destroyAllWindows()
```

Orig

hort

vert

Run cv_2

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe

size of img in bytes: 749088

Search

13

3:12:03 PM
4/17/2025

OC OpenCv Version control

Current File

Project cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py

Open Cv C:\Users\Yashit\Project
v .venv library root
> car.jpeg
 cv_2.py
 cv_3.py
 cv_4.py
 cv_5.py
 cv_6.py
 cv_7.py
 cv_8.py
 cv_9.py
 cv_10.py
 cv_11.py
 cv_12.py
 cv_13.py
 main.py
≡ Output.avi
? Output.mp4
> External Libraries
≡ Scratches and Consoles

1 import cv2
2
3 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
4
5 print("Dimensions of original image:", img.shape)
6
7 scale= 50
8
9 w=int(img.shape[1]*scale / 100)
10 h=int(img.shape[0]*scale/100)
11
12 dim = (w,h)
13
14 resized = cv2.resize(img, dim, interpolation=cv2.INTER_AREA)
15 print("d of resized img", resized.shape)
16
17 cv2.imshow(winname: "resized",resized)
18 cv2.imshow(winname: "Orig",img)
19
20 cv2.waitKey(0)
21 cv2.destroyAllWindows()

resized
Orig

Run cv_3
C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_3.py
Dimensions of original image: (408, 612, 3)
d of resized img (204, 306, 3)

High UV Now Search ENG IN 3:12:45 PM 4/17/2025

OC OpenCv Version control

Current File

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py cv_12.py Output.avi

Maximize your efficiency with numpy Try PyCharm Professional Dismiss

```
1 import cv2
2 import numpy as np
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg", cv2.IMREAD_COLOR)
5 # img=np.zeros(shape=[600,800],dtype='uint8')
6 cv2.line(img, pt1: (300,300), pt2: (200,200), color: (18,34,180), thickness: 5)
7 cv2.rectangle(img,(300,300),(200,200),(180,34,79),2)
8 cv2.circle(img, center: (250,250), radius: 8, color: (255,0,0), thickness: 2)
9 pts_polygon = np.array( object: [[100,50],[100,300],[500,50],[500,300]],np.int32)
10
11 cv2.polyline(img, pts: [pts_polygon], isClosed: True, color: (0,255,255), thickness: 3)
12
13 font = cv2.FONT_HERSHEY_DUPLEX
14 cv2.putText(img, text: 'Hello!', org: (10,350),font, fontScale: 3, color: (200,255,255), thickness: 3)
15 cv2.imshow( winname: "Hello!",img )
16
17
18 cv2.waitKey(0)
19 cv2.destroyAllWindows()
```

Run cv_4 :

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_4.py

High UV Now

Search

ENG IN 3:13:14 PM 4/17/2025

A screenshot of a PyCharm IDE showing a Python script for OpenCV. The script reads an image, adds several graphical elements like lines, rectangles, and circles, and then displays the result with the word 'Hello!' overlaid. The resulting window shows a highway scene with these annotations.

OC OpenCv Version control

Current File

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py cv_12.py Output.avi

Maximize your efficiency with numpy

```
1 import cv2
2 import numpy as np
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
5
6 column=img.shape[1]
7 row=img.shape[0]
8
9 s=np.float32([[1,0,150],[0,1,70]])
10 shifted= cv2.warpAffine(img,s, dsize: (column,row))
11
12 cv2.imshow( winname: 'org', img)
13 cv2.imshow( winname: 'sh',shifted)
14 cv2.waitKey(0)
15 cv2.destroyAllWindows()
```

Try PyCharm Professional Dismiss

1

Run cv_5

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_5.py

High UV Now

Search

13

3:13:59 PM 4/17/2025

org

sh

1645875672

gettyimage Credit: NurPh

OC OpenCv Version control

Current File -

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py cv_12.py Output.avi

Maximize your efficiency with numpy Try PyCharm Professional Dismiss 1 ✓ 1 ^

```
1 import cv2
2 import numpy as np
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
5 row=img.shape[1]
6 col=img.shape[0]
7
8 center = (col/2 , row/2)
9 angle=180
10
11 r=cv2.getRotationMatrix2D(center,angle, scale: 1)
12 rotate=cv2.warpAffine(img,r, dsize: (col,row))
13
14 cv2.imshow( winname: 'Rotated',rotate)
15 cv2.waitKey(0)
16 cv2.destroyAllWindows()
```

Rotated

Run cv_5 cv_6

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit

Upcoming Earnings 1 Search ENG IN 3:14:27 PM 4/17/2025

OC OpenCv Version control

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py cv_8.py

Maximize your efficiency with numpy

```
1 import cv2
2 import numpy as np
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg",0)
5
6 threshold_value=150
7
8 _,binary_threshold=cv2.threshold(img,threshold_value, maxval: 255, cv2.THRESH_BINARY)
9
10 cv2.imshow( winname: "Org",img)
11 cv2.imshow( winname: "Binary Threshold",binary_threshold)
12 cv2.waitKey(0)
13 cv2.destroyAllWindows()
```

Run cv_5 cv_6 cv_7

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_7.p

Upcoming Earnings 1

Search

Org

gettyimages Credit: NurPhoto

Binary Threshold

3:14:59 PM 4/17/2025

OC OpenCv Version control

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py

Maximize your efficiency with numpy

```
1 import cv2
2 import numpy as np
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/Desktop/img.jpg")
5
6 resize=cv2.resize(img, dsize: (640,640))
7
8 kSize = (7,7)
9 sigmax=0
10 sigmay=0
11
12 blur = cv2.GaussianBlur(resize,kSize,sigmax)
13
14
15 cv2.imshow( winname: "Org",resize)
16 cv2.imshow( winname: "Output",blur)
17
18 cv2.waitKey(0)
19 cv2.destroyAllWindows()
```

Run cv_5 × cv_6 × cv_8 ×

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_8.py

Air: Very Poor Now

Search

Org Output



1645875672

1645875472

3:15:43 PM 4/17/2025

OC OpenCv Version control

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py

Maximize your efficiency with numpy

```
1 import cv2
2 import numpy as np
3
4 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
5
6 resize = cv2.resize(img, dsize: (520,520))
7 d=7
8 sigmacolor=100
9 sigmaspace=100
10
11 b = cv2.bilateralFilter(resize,d , sigmacolor, sigmaspace)
12
13 cv2.imshow( winname: 'Input',resize)
14 cv2.imshow( winname: 'Out',b)
15 cv2.waitKey(0)
16 cv2.destroyAllWindows()
```

Run cv_5 cv_6 cv_9

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_9.py

Air: Very Poor Now

Input



Out



Dismiss

1 3 1 3

Search

Search

13

3:16:28 PM 4/17/2025

OC OpenCv Version control

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py

Maximize your efficiency with numpy

```
1 #Canny Protection of Edges. Steps are->
2 #1 Noise reduction
3 #2 Intensity of gradient of img
4 #3 Non-max suppression
5 #4 thresholding
6
7 > import ...
8
9
10 img = cv2.imread("C:/Users/Yashit/OneDrive/Desktop/img.jpg")
11
12 resize = cv2.resize(img, dsize: (520,520))
13 min_thres = 100
14 max_thres = 200
15 edges = cv2.Canny(resize, min_thres,max_thres)
16
17 cv2.imshow( winname: "Org",resize)
18 cv2.imshow( winname: "Edges",edges)
19 cv2.waitKey(0)
20 cv2.destroyAllWindows()
```

Run cv_5 cv_6 cv_10

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_10.py

Org



11.py cv_12.py Output.avi

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Edges



gettyimages Credit: NurPhoto 1645875672

3:17:10 PM 4/17/2025

OC OpenCv Version control

Current File

cv_2.py cv_3.py cv_4.py cv_5.py cv_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py cv_12.py Output.avi

1 import cv2
2
3 video = cv2.VideoCapture("C:/Users/Yashit/OneDrive/Music/KHOTTA_SIKHA.mp4")
4
5 while video.isOpened():
6 _, frame = video.read()
7
8 frame = cv2.resize(frame, dsize: (800, 720))
9 cv2.imshow(winname: 'Output', frame)
10 if cv2.waitKey(1) & 0xFF == ord('q'): break
11
12 video.release()
13 cv2.destroyAllWindows()

Output

SHEETAL PANDEY OFFICIAL PRESENTS

खोटा सिंह

SINGER

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\Op

News for you Xbox Game Pass... Search

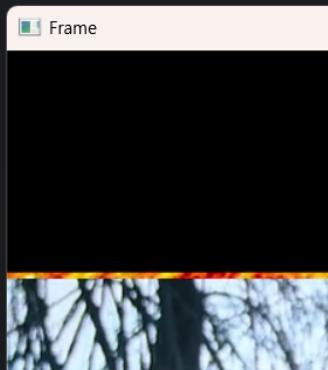
13 ENG IN 3:17:38 PM 4/17/2025

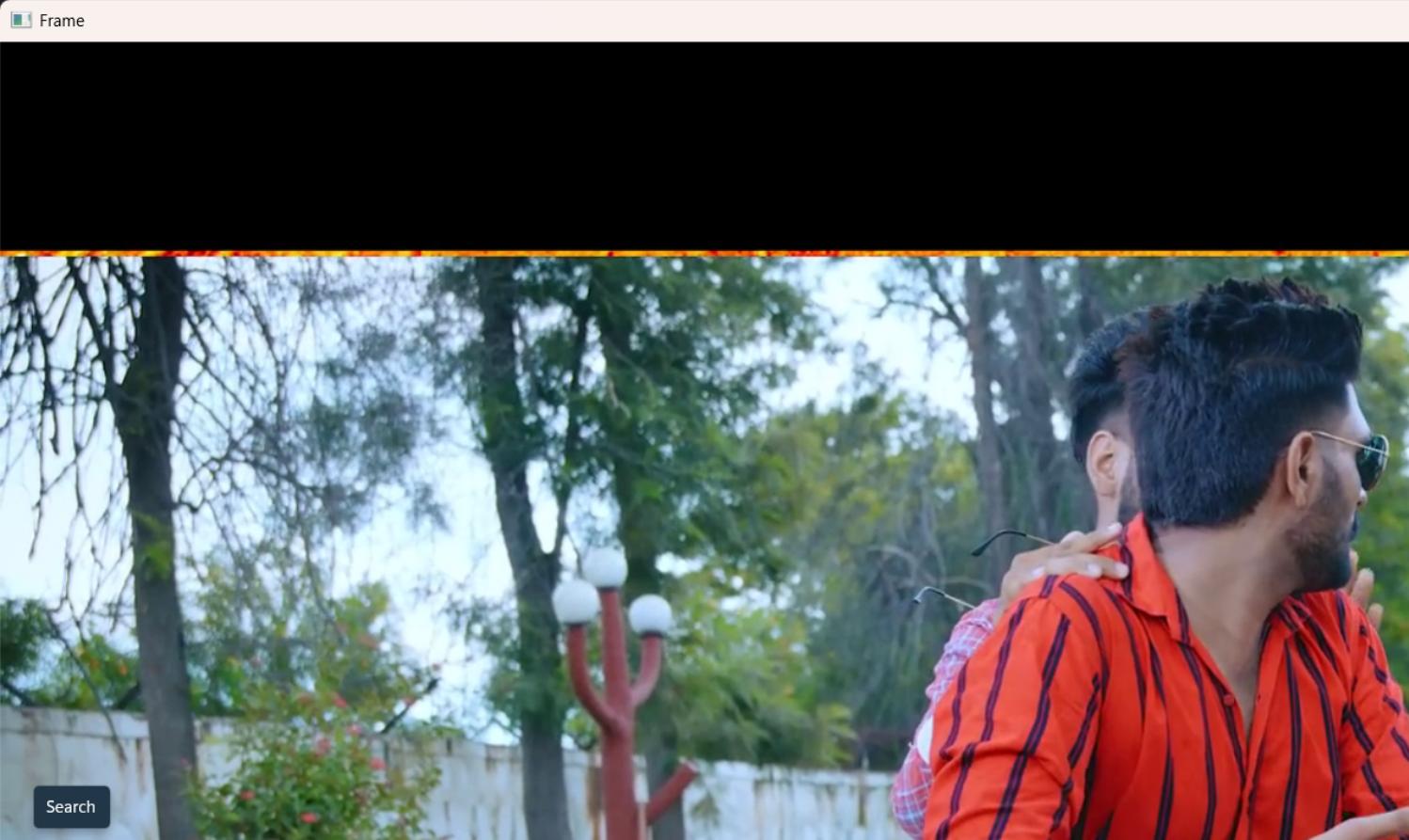
```
import cv2

video = cv2.VideoCapture("C:/Users/Yashit/OneDrive/Music/Khasa Aala Chahar.mp4")
fourcc = cv2.VideoWriter_fourcc(*'XVID')
out = cv2.VideoWriter('Output.avi', fourcc, 25, (1920, 1012))

while video.isOpened():
    ret, frame = video.read()
    if ret:
        out.write(frame)
        cv2.imshow( winname: 'Frame', frame)
        if cv2.waitKey(1) & 0xFF == ord('s'):
            break
    else:
        break

video.release()
out.release()
cv2.destroyAllWindows()
```





OC OpenCv Version control

Current File

Project v_6.py cv_7.py cv_8.py cv_9.py cv_10.py cv_11.py cv_12.py Output.avi cv_13.py

Open Cv C:\Users\Yashit\Project\OpenCv
 > .venv library root
 car.jpeg
 cv.py
 cv_2.py
 cv_3.py
 cv_4.py
 cv_5.py
 cv_6.py
 cv_7.py
 cv_8.py
 cv_9.py
 cv_10.py
 cv_11.py
 cv_12.py
 cv_13.py
 main.py
 Output.avi
 Output.mp4
 > External Libraries
 Scratches and Consoles

Run cv_5 cv_6 cv_13

C:\Users\Yashit\Project\OpenCv\.venv\Scripts\python.exe C:\Users\Yashit\Project\OpenCv\cv_13.p

1 import cv2
2
3 cap = cv2.VideoCapture(0)
4
5 while cap.isOpened():
6 _,frame = cap.read()
7 cv2.imshow(winname: 'Live',frame)
8
9 if cv2.waitKey(10)==ord('z'):
10 break
11
12 cv2.destroyAllWindows()

Live

4 101°F Haze Search ENG IN 3:19:54 PM 4/17/2025