dsigv0dwy

November 25, 2025

```
[ ]: !pip install facenet-pytorch opencv-python pandas tqdm
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Requirement already satisfied: facenet-pytorch in
/usr/local/lib/python3.12/dist-packages (2.6.0)
Requirement already satisfied: opencv-python in /usr/local/lib/python3.12/dist-
packages (4.11.0.86)
Requirement already satisfied: pandas in /usr/local/lib/python3.12/dist-packages
(2.2.2)
Requirement already satisfied: tqdm in /usr/local/lib/python3.12/dist-packages
(4.67.1)
Requirement already satisfied: numpy<2.0.0,>=1.24.0 in
/usr/local/lib/python3.12/dist-packages (from facenet-pytorch) (1.26.4)
Requirement already satisfied: Pillow<10.3.0,>=10.2.0 in
/usr/local/lib/python3.12/dist-packages (from facenet-pytorch) (10.2.0)
Requirement already satisfied: requests<3.0.0,>=2.0.0 in
/usr/local/lib/python3.12/dist-packages (from facenet-pytorch) (2.32.4)
Requirement already satisfied: torch<2.3.0,>=2.2.0 in
/usr/local/lib/python3.12/dist-packages (from facenet-pytorch) (2.2.2)
Requirement already satisfied: torchvision<0.18.0,>=0.17.0 in
/usr/local/lib/python3.12/dist-packages (from facenet-pytorch) (0.17.2)
Requirement already satisfied: python-dateutil>=2.8.2 in
/usr/local/lib/python3.12/dist-packages (from pandas) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.12/dist-
packages (from pandas) (2025.2)
Requirement already satisfied: tzdata>=2022.7 in /usr/local/lib/python3.12/dist-
packages (from pandas) (2025.2)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.12/dist-
packages (from python-dateutil>=2.8.2->pandas) (1.17.0)
Requirement already satisfied: charset_normalizer<4,>=2 in
/usr/local/lib/python3.12/dist-packages (from requests<3.0.0,>=2.0.0->facenet-
pytorch) (3.4.4)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.12/dist-
packages (from requests<3.0.0,>=2.0.0->facenet-pytorch) (3.11)
Requirement already satisfied: urllib3<3,>=1.21.1 in
/usr/local/lib/python3.12/dist-packages (from requests<3.0.0,>=2.0.0->facenet-
pytorch) (2.5.0)
Requirement already satisfied: certifi>=2017.4.17 in
/usr/local/lib/python3.12/dist-packages (from requests<3.0.0,>=2.0.0->facenet-

pytorch) (2025.10.5)
Requirement already satisfied: filelock in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (3.20.0)
Requirement already satisfied: typing-extensions>=4.8.0 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (4.15.0)
Requirement already satisfied: sympy in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (1.13.3)
Requirement already satisfied: networkx in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (3.5)
Requirement already satisfied: jinja2 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (3.1.6)
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Requirement already satisfied: nvidia-cuda-nvrtc-cu12==12.1.105 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (12.1.105)
Requirement already satisfied: nvidia-cuda-runtime-cu12==12.1.105 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (12.1.105)
Requirement already satisfied: nvidia-cuda-cupti-cu12==12.1.105 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (12.1.105)
Requirement already satisfied: nvidia-cudnn-cu12==8.9.2.26 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (8.9.2.26)
Requirement already satisfied: nvidia-cublas-cu12==12.1.3.1 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (12.1.3.1)
Requirement already satisfied: nvidia-cufft-cu12==11.0.2.54 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (11.0.2.54)
Requirement already satisfied: nvidia-curand-cu12==10.3.2.106 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (10.3.2.106)
Requirement already satisfied: nvidia-cusolver-cu12==11.4.5.107 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (11.4.5.107)
Requirement already satisfied: nvidia-cusparse-cu12==12.1.0.106 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (12.1.0.106)
Requirement already satisfied: nvidia-nccl-cu12==2.19.3 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (2.19.3)
Requirement already satisfied: nvidia-nvtx-cu12==12.1.105 in /usr/local/lib/python3.12/dist-packages (from torch<2.3.0,>=2.2.0->facenet-pytorch) (12.1.105)
Requirement already satisfied: nvidia-nvjitlink-cu12 in

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/usr/local/lib/python3.12/dist-packages (from nvidia-cusolver-
cu12==11.4.5.107->torch<2.3.0,>=2.2.0->facenet-pytorch) (12.6.85)
Requirement already satisfied: MarkupSafe>=2.0 in
/usr/local/lib/python3.12/dist-packages (from
jinja2->torch<2.3.0,>=2.2.0->facenet-pytorch) (3.0.3)
Requirement already satisfied: mpmath<1.4,>=1.1.0 in
/usr/local/lib/python3.12/dist-packages (from
sympy->torch<2.3.0,>=2.2.0->facenet-pytorch) (1.3.0)
```

```python
# uploading my image
from google.colab import files
uploaded = files.upload()
```

```
<IPython.core.display.HTML object>

Saving 482008338_9402511709826208_2851258712768053722_n.jpg to
482008338_9402511709826208_2851258712768053722_n.jpg
```

```python
# changing file name
import os
for i in uploaded.keys():
    os.rename(i, 'try_file')
print('Done')
```

```
Done
```

```python
from facenet_pytorch import MTCNN

# mtcnn detector
mtcnn = MTCNN(keep_all=True)
print('Done')
```

```
Done
```

```python
# loading my image
import matplotlib.pyplot as plt
img = Image.open('try_file')
plt.imshow(img)
plt.axis(('off'))
```

```
(-0.5, 899.5, 895.5, -0.5)
```

```python
# mtcnn face detection on the image

boxes, probs, landmarks = mtcnn.detect(img, landmarks=True)

print('Bounding Boxes:\n', boxes)
print('\nConfidence:\n', probs)
print('\nLandmarks:\n', landmarks)

# this will show the bounding boxes, confidence level and eye/nose/mouth
#  landmark coordinates
```

```
Bounding Boxes:
 [[320.12158203125 104.67335510253906 524.1055297851562 375.1015625]]

Confidence:
 [0.9999915361404419]

Landmarks:
 [[[370.4604797363281 217.29544067382812]
   [459.15875244140625 207.46298217773438]
   [416.4872741699219 268.53973388671875]
   [386.6950378417969 320.50787353515625]
   [464.1894226074219 311.9498596191406]]]
```

```python
# drawing bounding boxes

from PIL import ImageDraw
draw = ImageDraw.Draw(img)

# take the first detected face box
a, b, c, d = [int(i) for i in boxes[0]]

# draw the box
draw.rectangle([(a, b), (c, d)], outline='yellow', width=3)

# show image with just the box
plt.imshow(img)
plt.axis('off')
```

[ ]: (-0.5, 899.5, 895.5, -0.5)


```python
type(landmarks)
```

[ ]: numpy.ndarray

```python
# drawing the 5 landmarks for the first face
for x, y in landmarks[0]:
```

```
    r = 3    # radius of the dot
    draw.ellipse((x - r, y - r, x + r, y + r), fill='yellow')

# show image with box + landmarks
plt.imshow(img)
plt.axis('off')
```

[ ]: (-0.5, 899.5, 895.5, -0.5)


```
[ ]: # saving my annotated pic
img.save('annotated.jpg')
print('Saved')
```

Saved