

This is an example of identifying and drawing boxes on the faces

In [1]: *# import the necessary packages:*

```
import face_recognition
import os
from PIL import Image, ImageDraw
import PIL.Image
import PIL.ImageDraw
```

In [2]: *# get the current working directory:*

```
cwd = os.getcwd()
cwd
```

Out[2]: '/Users/karimaidrissi/Downloads'

In [3]: *# changing the current working directory:*

```
os.chdir("/Users/karimaidrissi/Desktop/DSSA 5104 DL/week4")
print(os.getcwd())
```

/Users/karimaidrissi/Desktop/DSSA 5104 DL/week4

```
In [4]: #to identify and draw boxes on the faces:

#load a simple picture of Bill Gates and learn how to recognize it:
image_of_bill = face_recognition.load_image_file("bill_gates.jpg")
bill_face_encoding = face_recognition.face_encodings(image_of_bill)[0]

#load a simple picture of Melina Gates and learn how to recognize it:
image_of_melina = face_recognition.load_image_file("melina_gates.jpeg")
melina_face_encoding = face_recognition.face_encodings(image_of_melina)[0]

# create array of known face encodings and names:
known_face_encodings = [
    bill_face_encoding,
    melina_face_encoding
]

known_face_names = [
    "Bill Gates",
    "Melina Gates"
]

# loading the test image of Gates family:
test_image = face_recognition.load_image_file("Gates_family.jpg")

# find faces in test image:
face_locations = face_recognition.face_locations(test_image)
face_encodings = face_recognition.face_encodings(test_image, face_locations)

# convert to PIL format so we can draw on top of it with Pillow library:
bill_image = Image.fromarray(test_image)

# create a ImageDraw instance to draw with:
draw = ImageDraw.Draw(bill_image)

# loop through each face in test image
for(top, right, bottom, left), face_encoding in zip(face_locations, face_encodings):
    matches = face_recognition.compare_faces(known_face_encodings, face_encoding)

    name = "Unknown Person"

    # if match
    if True in matches:
        first_match_index = matches.index(True)
        name = known_face_names[first_match_index]

    # Draw box around the face using Pillow module:
    draw.rectangle(((left, top), (right, bottom)), outline = (0,0,0))

    # Draw label with a name below the face:
    text_width, text_height = draw.textsize(name)
    draw.rectangle(((left, bottom - text_height), (right, bottom+5)), fi
```

```
ll = (0,0,0), outline =(0,0,0))
    draw.text((left + 6, bottom - text_height), name, fill = (255, 255,
255, 255))
# remove the drawing library from memory
del draw

# display the image:
bill_image

# save copy of the image:
#bill_image.save("")
```

Out[4]:



In []: