Face detection

   (1) Clone the git repo https://github.com/serengil/deepface

The repo was cloned locally. It seems to offer a good amount of features and is quite extensive when it comes to detecting faces.

    (2) Work through an example

The first thing I wanted to try out is if the face verification can accurately differentiate two faces or recognize two photos of the same person.

```python
from deepface import DeepFace

result = DeepFace.verify(img1_path="img1.png", img2_path="img2.jpg")

print("Is verified: ", result)
```

Here are the two images I used:
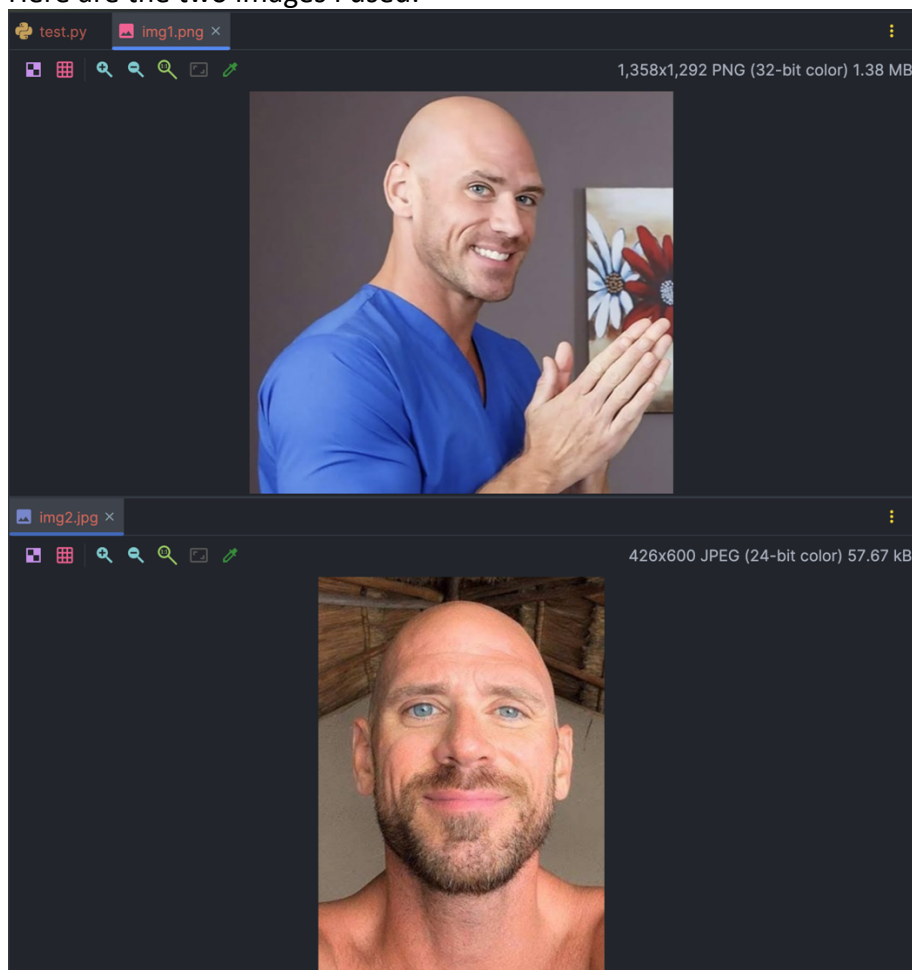
And here is the results: {'verified': False, 'distance': 0.6746992614947603, 'threshold': 0.4, 'model': 'VGG-Face', 'detector_backend': 'opencv', 'similarity_metric': 'cosine', 'facial_areas': {'img1': {'x': 490, 'y': 97, 'w': 565, 'h': 565}, 'img2': {'x': 60, 'y': 64, 'w': 327, 'h': 327}}, 'time': 0.99}

Both pictures represent the same person. However, the algorithm returned a response concluding that it's not the same. What is surprising is the distance of 0.67 which is quite a large distance.

(3) Work through another example

The next ghing I wanted to do is analyze the images from the examples above and look at the results for age, gender, race and emotion. Below you can find the code:

```python
from deepface import DeepFace

result = DeepFace.verify(img1_path="img1.png", img2_path="img2.jpg")

objs = DeepFace.analyze(img_path = "img1.png",
          actions = ['age', 'gender', 'race', 'emotion']
)
print(objs)
```

And here are the results:

Img1: [{'age': 36, 'region': {'x': 490, 'y': 97, 'w': 565, 'h': 565}, 'gender': {'Woman': 1.5075480565428734, 'Man': 98.49244952201843}, 'dominant_gender': 'Man', 'race': {'asian': 0.3223357256501913, 'indian': 1.1624441482126713, 'black': 0.030091387452557683, 'white': 59.663861989974976, 'middle eastern': 34.47657227516174, 'latino hispanic': 4.344695061445236}, 'dominant_race': 'white', 'emotion': {'angry': 5.736299604177475, 'disgust': 0.14962669229134917, 'fear': 2.8950558975338936, 'happy': 17.99696385860443, 'sad': 1.7594287171959877, 'surprise': 1.2258072383701801, 'neutral': 70.23681998252869}, 'dominant_emotion': 'neutral'}]

img2: [{'age': 35, 'region': {'x': 60, 'y': 64, 'w': 327, 'h': 327}, 'gender': {'Woman': 0.00015533732948824763, 'Man': 99.99984502792358}, 'dominant_gender': 'Man', 'race': {'asian': 4.782195761799812, 'indian': 5.9289321303367615, 'black': 1.636980101466179, 'white': 34.08729434013367, 'middle eastern': 27.08655297756195, 'latino hispanic': 26.478037238121033}, 'dominant_race': 'white', 'emotion': {'angry': 0.11217073770239949, 'disgust': 0.0008450198947684839, 'fear': 24.13800358772278, 'happy': 2.690492197871208, 'sad': 7.935573160648346, 'surprise': 0.07850810652598739, 'neutral': 65.04440903663635}, 'dominant_emotion': 'neutral'}]

These results seem to be correct, which is suprising, given the pictures are quite different.