CMPE58Z - Assignment 2

Sadullah Gültekin - 2014400066

Spring Term, 2020

1 Example Outputs

Figure 1: There is only one face and it is detected clearly.

Figure 2: Two faces are found correctly, however their facial marks are not found because the cases have masks in front of them and the size of face parts are relatively small.

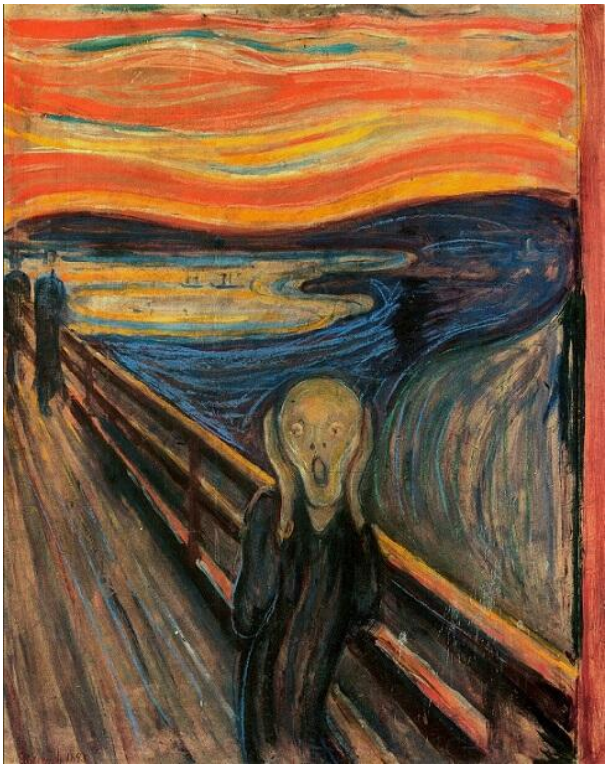

Figure 3: There is a one face that is not found which has unusual shapes.

Figure 4: Emoji's are not real faces, however model founds that only one of them as a face. Facial marks are not found as expected, because there are not usual facial parts.

Figure 5: There are people with different races. The model detects faces and facial marks perfectly.

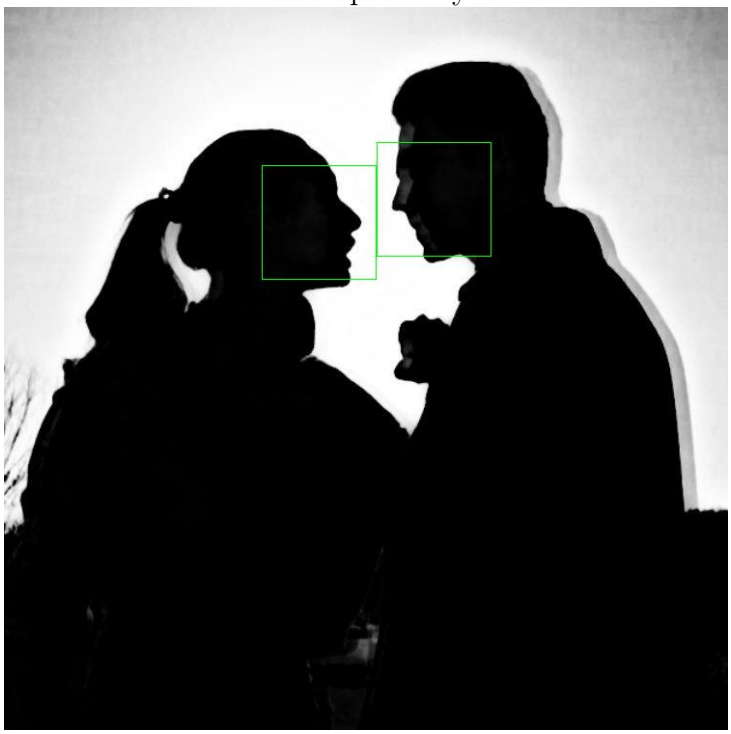

Figure 6: There are two person silhouettes, However model finds face parts correctly. This is incredible.

Figure 7: There are two faces and two skulls, the model finds faces correctly, however facial marks are not true for one of them, because of unexpected wrinkles in the face.

Figure 8: There are three Japanese women with white mask. The model detects faces and facial marks perfectly despite the masks.

Figure 9: There is one face that is not detected because half of it is not fitted in the image. Four facial marks are not found either for the same reason.

Figure 10: In the image there are 3 human faces, and two other faces of non-human characters. The model finds the face of one of the non-human character, however can not find other faces. The reason may be the quality of the image or the model may be weak against animation characters.

Figure 11: There are four(?) faces that are not detected. I just wanted to see whether the model will find unnecessary faces in the image or not. However, the model is not tends to find unnecessary faces.

Figure 12: There is one face that is not detected. The reason may be the color of the face.

Figure 13: There are tow faces that are not detected due to the occlusions. Also, for three faces, the model fails to find facial marks due to the illumination.

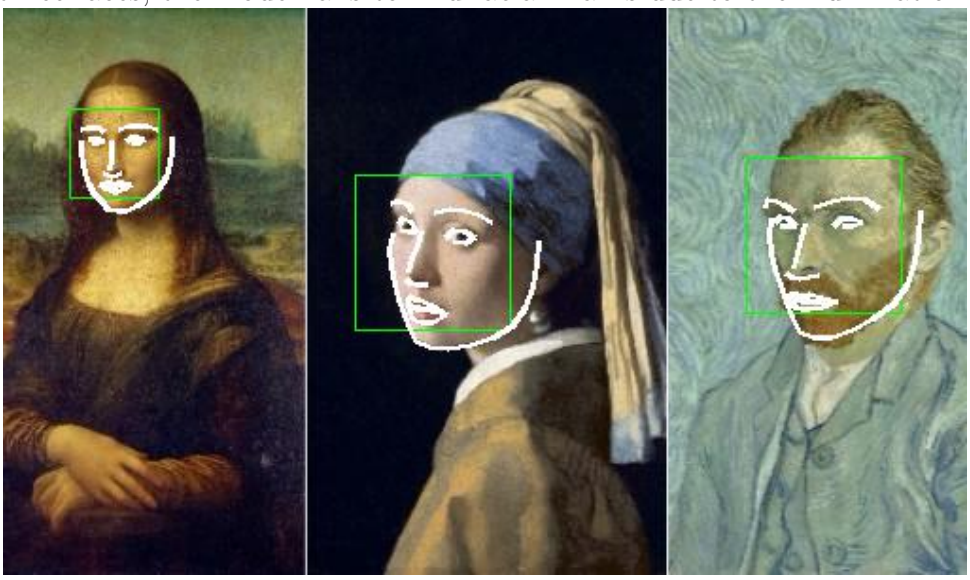

Figure 14: The model detects faces and facial marks for drawn faces.

figure 15: The model fails to find the two of the faces of animation characters, due to unexpected facial shapes. One of the faces is detected by the model, however because of the same reason of the failure in face detection, facial marks are not found correctly.

Figure 16: There are tons of faces in the image however the model fails to find all of them. The reason is that the faces are too small.

2 Overall Evaluation

Files	Faces	Correct Detections	False Positive	False Negative
figure 1	1	1	0	0
figure 2	2	2	0	0
figure 3	1	0	0	1
figure 4	4	1	0	3
figure 5	12	12	0	0
figure 6	2	2	0	0
figure 7	2	2	0	0
figure 8	3	3	0	0
figure 9	11	10	0	1
figure 10	5	1	0	4
figure 11	5*	1	0	4
figure 12	2	1	0	1
figure 13	7	5	0	2
figure 14	3	3	0	0
figure 15	3	1	0	2
figure 16**	inf	0	0	inf
Total	63	45	0	18

* The number of faces is not definite, it is assumed 5
* There are too many faces in the image, so, the statistics are not used to evaluate the model performance.