Ömer Faruk Özdemir, 2016400048, farukozderim@gmail.com, Cmpe58z, Assignment 2

This is a homework for testing face_recognition library available at
https://github.com/ageitgey/face_recognition.
It uses CNN based model for face detection.

I tried to test different type of images for detecting face and face landmarks. Here is the results.

1- This image consists of individual faces. The model behaves quite good on this image.

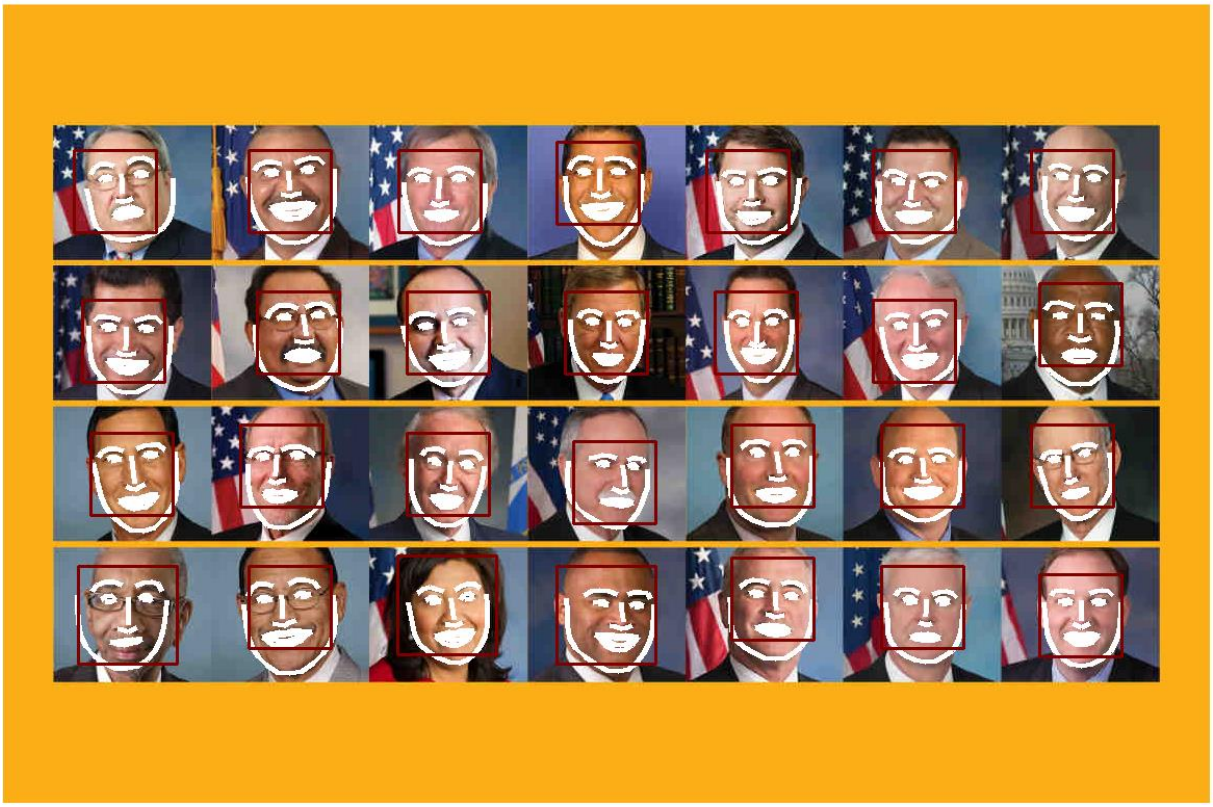
Success 59/60.

Failed face is due to bars in front of it. Though facial landmark detection is successful on that.

2- This image is consists photos of babies. It works well here as well.

Success 14/18.

Dont know the reason behind failed examples. They look quite similar to others. Maybe low resolution may be the cause.



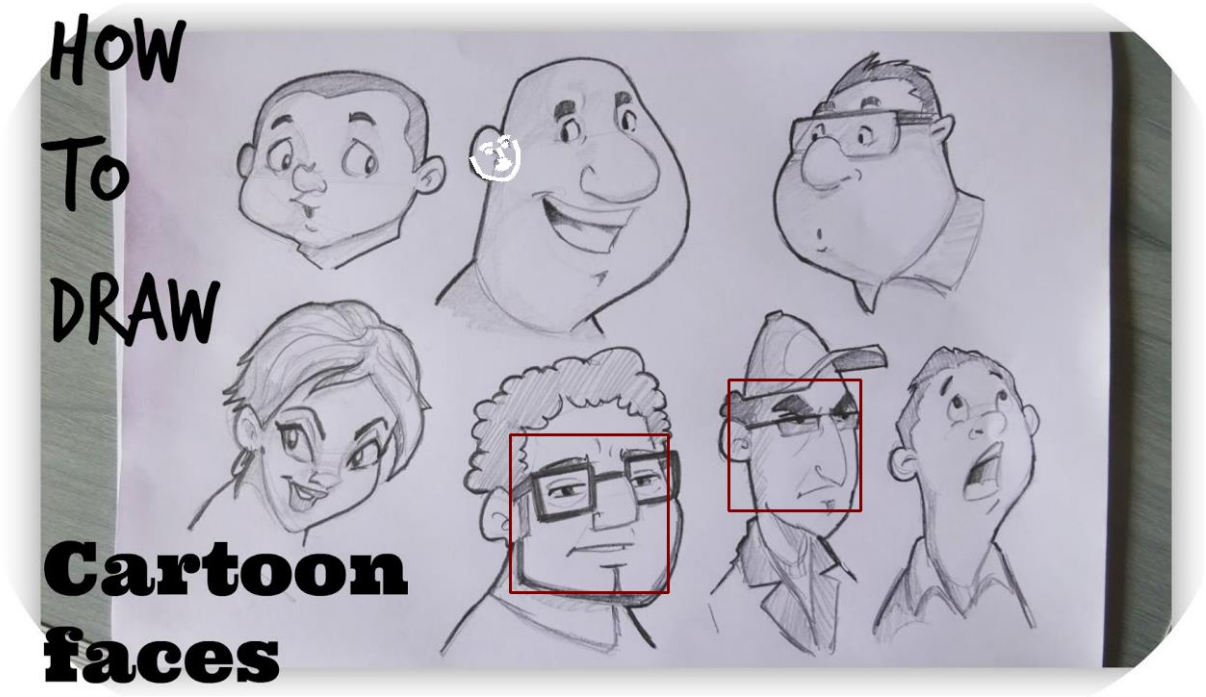
3-This image consists of old aged faces. Model works well here as well. It seems model works good on seperated portrait photos.
Success: 32/32.

4-This is a marvel drawing. Model does not work well here, we can consider only faces that showing human face skin. Face landmark detection is better here. Failure probably caused by low resolution of individual faces, low realisticity of drawings, and various types of backgrounds.

Success: 2/8

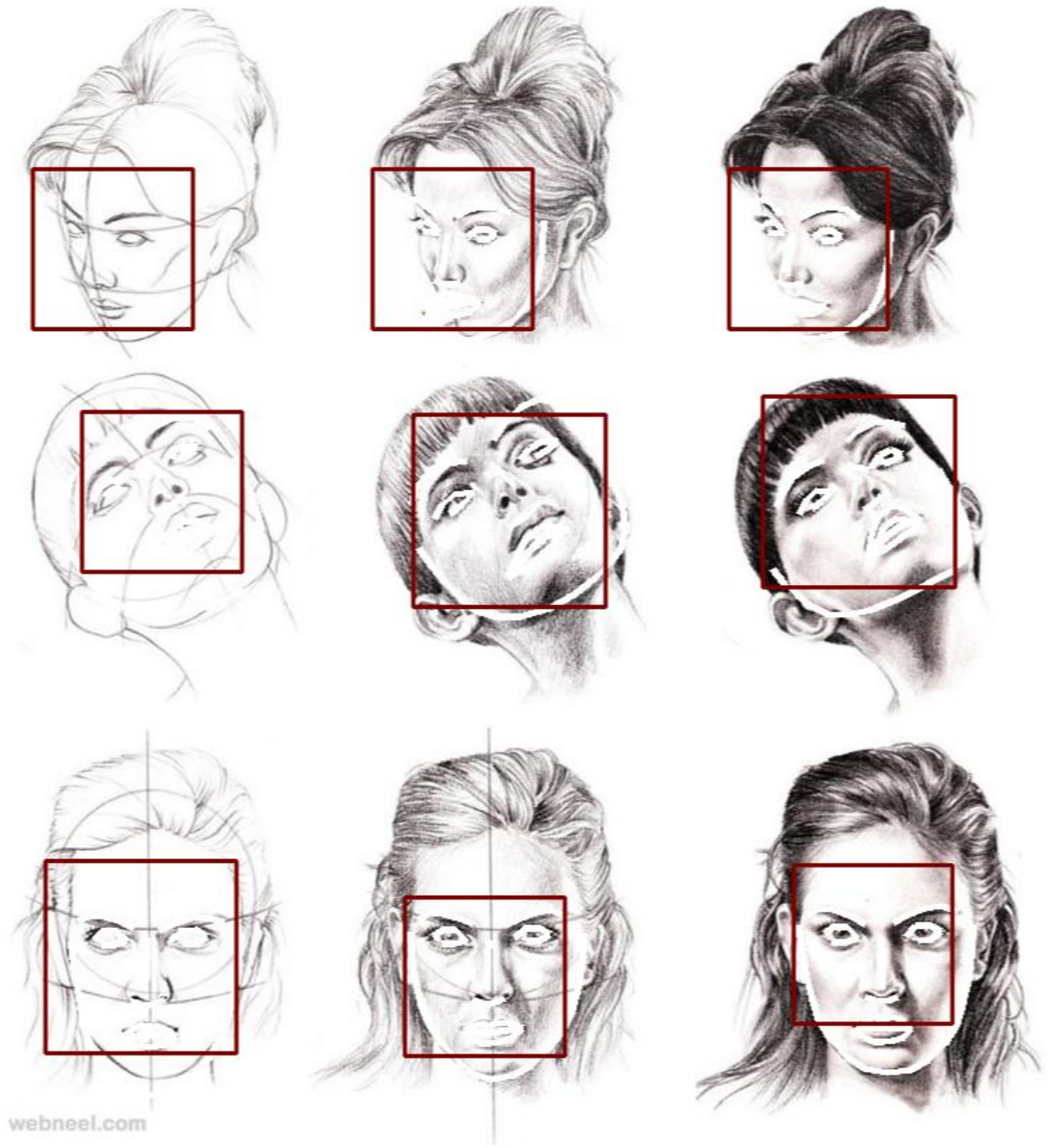
5-This is an anime drawing, the model does not work that well here either. Though it works better compared to marvel drawings. Failure may stem from low realisticity of drawings, and flat faces. Face landmark detection is unsuccessful due to low complexity of faces.

Success: 8/17



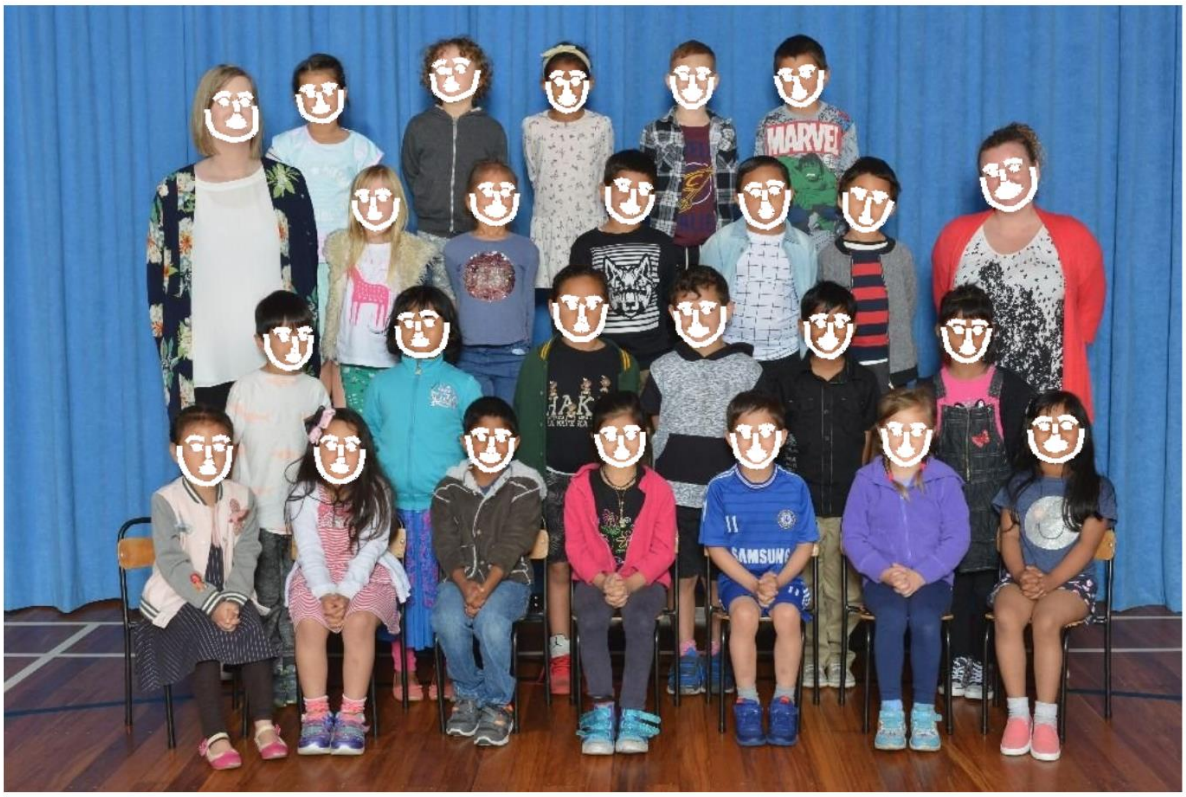
6-This is a simple drawing example. It seems model does not work very well for non portrait type of drawings. Model may be only trained with real photo shots.

Success: 2/7.



7- Model works well on portrait type of drawings. From this photo we can infer that complexity of faces is not a reason for failure of face detection.

Success: 9/9.



8- Here face_landmark detection is successful however face detection is unsucessful. It may stem from number of faces and individual face resolutions. And maybe because of backgroun colors.

Success: 0/27.

9- In this image both face landmark and face detection is unsuccessful. It seems this model does not work well on small resolution faces or distant shooting photos.

Success: 0/37

10- Model is successful in this medium range shooted photo which shows that model does not work well only for short range.

Success: 6/6.

Total Result:

Files	#Faces	Correct Detection	False Positive	False Negative
1-	60	59	0	1
2-	18	14	0	4
3-	32	32	0	0
4-	8	2	0	6
5-	17	8	0	9
6-	7	2	0	5
7-	9	9	0	0
8-	27	0	0	27
9-	37	0	0	37
10-	6	6	0	0
Total	**221**	**132**	**0**	**89**

132/221=%59.72