CS574

Computer vision and machine learning

(Assignment #4)

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Ordinal Regression

1. The problem with nose alignment was that most of the part of the face could be hidden on the side which is not exposed to camera.

Solution Tried - In order to the solution we required to somehow get the unexposed part of the face to consider facial features from all over the face. But after reading some of the resources we came to know that generating the hidden part of the face might require complex neural network solution but as of now, we don't have enough knowledge to solve this complex problem.

2. Quality of the image

Solution tried - To improve this problem we required to use Generative Adversarial Network algorithm but the data was so large and we have to train our model again for the whole data set. But due to lack of time, we are not able to implement this idea.

3. Imbalance dataset

Solution tried - Generative algorithms could have been used to improve dataset but the data was so large and we have to train our model again for the whole data set. But due to lack of time, we are not able to implement this idea.

Deep Neural Decision Forest

1. To get some feature from the hair part of the image we have tried it but the data was so large and we have to train our model again for

- the whole data set. But due to lack of time, we are not able to implement this idea.
- 2. To get the input from the inner layers besides the fully connected layer in the deep neural decision forest to get the more accurate result. We have tried it, but we were failed but due to not having the enough knowledge of neural network, we are not able to implement it in our code.