Face Recognition in the Wild

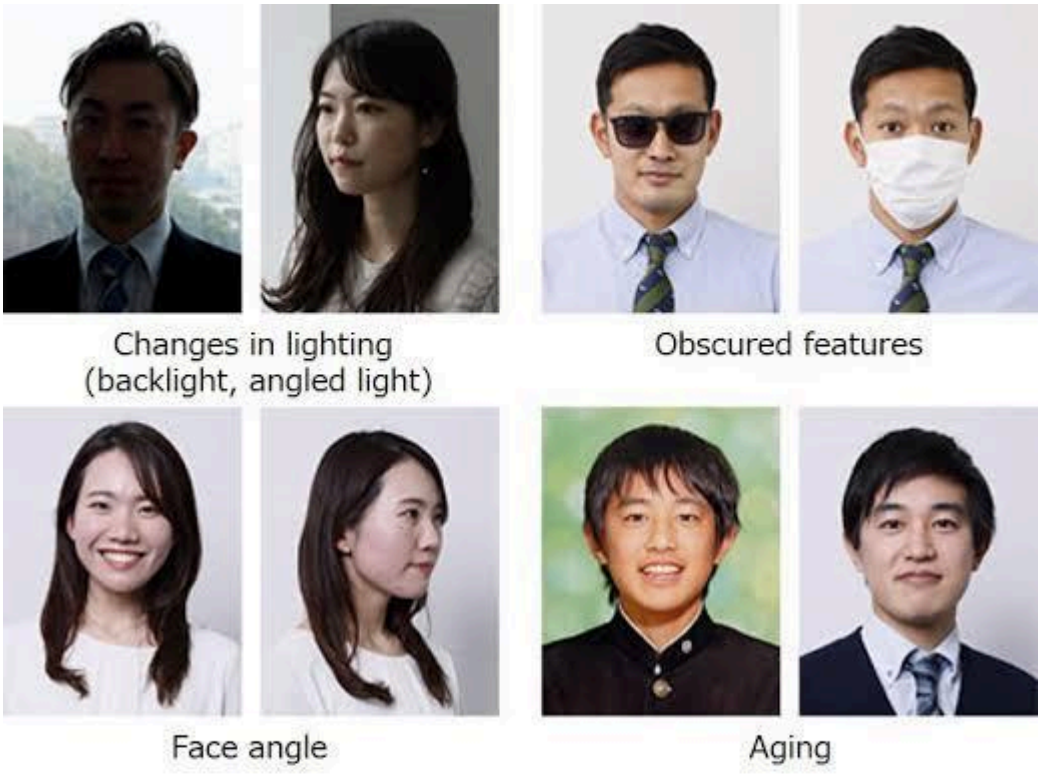
Computer Vision (CS6350)
TPA - 13

1. Problem Statement

Face recognition is one of the most important tasks in pattern recognition and computer vision. Although face recognition systems have achieved impressive performance in recent years, the task of face recognition in the wild remains challenging, especially when faces are captured under non-ideal conditions, such as **within crowds**, when the face is **occluded[2] or under non-ideal illumination**, as is common in real-world scenarios. Other applications can include **pose invariant face recognition, in the presence of background clutter**.

2. Input

Image containing a face or multiple faces in a non-ideal condition as mentioned above.
For example,



3. Output

Output image with bounding box on the person(s) detected along with his/her name (if available) else ‘unknown’ along with a confidence score of predicting each label.

Example 1:

Input Image:

Output Image:

Example 2:

Input Image:

Output Image:

Example 3:

Input Image: 

Output Image: 

4. Dataset

- Webface-OCC [1]: Webface-OCC is a simulated occlusion face recognition dataset, covering 804,704 face images of 10,575 subjects. Link

- LFW [9]: The LFW dataset contains 13,233 images of faces collected from the web. This dataset consists of the 5749 identities with 1680 people with two or more images. Link

- CelebA [10]: CelebFaces Attributes dataset contains 202,599 face images of the size 178×218 from 10,177 celebrities, each annotated with 40 binary labels indicating facial attributes like hair color, gender and age. Link

Note: Databases are just given for reference purposes. You are free to choose other well-known face datasets for this task.

5. References

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