Case # 680

Incorrect Submission.
The submitter shows her eyes closed in the photo.

The basic facial features such as the eyes should be clearly visible. The front-facing picture upload by the submitter has included her eyes closed. This makes all the features of her face not visible and that can, voluntarily or involuntarily, distract humans or algorithms from being able to detect identical faces (duplicates).

This submission has violated guideline #2 as stated:

Rule #2 "The picture should include the face of the submitter facing the camera and the facial features must be visible."

Link:
https://ipfs.kleros.io/ipfs/Qmc7ag5XohnSAozvsKsLCUbvaFyasyLtyi3H7g3mmxznPU/proof-of-humanity-registry-policy.pdf

Some published papers talk about the importance of the eyes in facial recognition:

1. **3rd International Conference on Control, Engineering & Information Technology (CEIT)**
   Abstract: In this paper, we evaluate the effect of removing eyes or eyebrows from face image (no left eyebrow, no right eyebrow, no eyebrows, no left eye, no right eye, no eyes, no left eyebrow and no left eye, no right eyebrow and no right eye, no eyebrows and no eyes) on the performance of face recognition system based on Principal Component Analysis (PCA), Singular Value Decomposition (SVD), Discrete Wavelet Decomposition (DWT), Discrete Cosine Transform (DCT) and application of DWT prior SVD (DWT-SVD). The evaluation is carried on the FEI database using the Recognition Rate (RR) and Equal Error Rate (EER) criteria.

   Authors: Nadjet Radji, Dalila Cherifi & Arab Azrar of Institute of Electrical and Electronics Engineering, University of Boumerdes, Algeria.
   Link: https://ieeexplore.ieee.org/document/7233088

2. **Paper: Recognizing Faces from the Eyes Only**
   Abstract: The eyes are one of the most important facial features for recognizing human faces. Many face recognition systems today make use of

local features (such as eyes) for identification or verification of individuals...

Authors: E. Hjelmas & Jørn of Wroldsen Norwegian University of Technology and Science · Gjøvik
Professor, dr. scient.
Link:
https://www.researchgate.net/publication/2622259_Recognizing_Faces_from_the_Eyes_Only

3. **Paper: Effects of Eye Position on Eigenface-Based Face Recognition Scoring**

Abstract: Eigenface based facial recognition systems rely heavily on predetermined eye locations to properly orient the input face prior to template generation. Gross errors in the eye detection process can be identified by examining the reconstruction image of the resulting eigenspace representation. Subtle variation in the precision of eye finding that does not prevent subsequent enrollment has not been effectively studied or reported by the biometrics testing community. We quantify the impact of eye locations on face recognition match scores for identical subject images. The scores are analyzed to better understand the consequences and sensitivity of eye finding for more general applications when eye locations must be determined automatically.

Reproducible eye detection and location is critical for consistent face recognition, yet this step remains poorly qualified and in need of further study. In this paper, we have demonstrated that eigenface approaches suffer degradation when eye locations cannot be precisely determined. Other face recognition techniques may be more or less susceptible to variation. Controlling and quantifying the eye detection process is a critical first step in understanding the relative merits of differing face recognition systems.

Authors: Joe Marques, Nicholas M. Orlans & Alan T. Piszcz of Mitre Corporation.
Link:
https://www.mitre.org/sites/default/files/pdf/marques_eigenface.pdf

Precedent cases:

As set precedent by case #615, closed eyes do not comply with registration rules. The submitter can't claim that she has an eyes problems since in the video his eyes are normally open.

The 3 jurors vote NOT to accept the registration. One of the jurors sentenced the following:

"The submitter shows her eyes closed in the photo. She claims that those are her features, but in the video she opened them in a couple of opportunities. Furthermore, the video does not reach the 360px required in one of the dimensiones."

Also in case #577 the jurors voted NOT to accept the registration.

The challenger argument was:

“Profile picture without visible facial features. The locations and sizes of eyes and lips are used as features for user recognition. In this profile picture, eyes colour, shape, iris are not visible.”

The jurors accepted the challenger's argument and the 3 jurors voted NOT to accept the registration. One of the jurors sentenced the following:

“No. Common sense and practicality indicates that basic facial features such as the eyes should be clearly visible, and the other submission requirements concerning visibility of facial features support this notion. Eyes being closed is functionally the same as submitting a photo with your eyes covered, which

is clearly noted allowed per the specified rules of PoH. For this reason the submission should be rejected. I am voting "No".”

Link: https://court.kleros.io/cases/615

Link: https://court.kleros.io/cases/577

In Conclusion:

Both technical evidence and case law indicate that registration should not be accepted if all basic facial features, such as the eyes, are not clearly visible in the picture.

Therefore, the application for registration should not be accepted.