Requirements for Face Image Data Registration for Visible Light Equipments

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1. Requirements of Live Collection and Registration of Visible Light Face Images

(1). It is recommended to perform registration in an indoor environment with appropriate light source without under exposure or over exposure.

(2). Do not shoot towards outdoor light source like door or window or other strong light sources.

(3). Dark-color apparels which are different from the background color are recommended for registration.

(4). Please show your face and forehead, and do not cover your face and eyebrows with your hair.

(5). It is recommended to show a plain facial expression. Smile is acceptable, but do not close your eyes, or incline your head to any orientation. Two images are required for persons with eyeglasses, one image with eyeglasses and one other without.

(6). Do not wear accessories like scarf or mask that may cover your mouth or chin.

(7). Please face right towards the capturing device, and locate your face in the image capturing area as shown in Image 1.

(8). Do not include more than one face in the capturing area.

(9). 50cm – 80cm is recommended for capturing distance adjustable subject to body height.

Image1 Face Capture Area

2. Requirements for Visible Light Digital Face Image Data

Digital photo should be straightly edged, coloured, half-portrayed with only one person, and the person should be unhatted and not in uniform. Persons who wear eyeglasses should remain to put on eyeglasses for photo capturing。

2.1 Eye Distance

200 pixels or above are recommended with no less than 115 pixels of distance.

2.2 Facial Expression

Plain face or smile with eyes naturally open are recommended.

2.3 Gesture and Angel

Horizontal rotating angle should not exceed ±10°, elevation should not exceed ±10°, and depression angle should not exceed ±10°.

2.4 Accessories

Masks and colored eyeglasses are not allowed. The frame of the eyeglasses should not shield eyes and should not reflect light. For persons with thick eyeglasses frame, it is recommended to capture two images, one with eyeglasses and the other one without.

2.5 Face

Complete face with clear contour, real scale, evenly distributed light and no shadow.

2.6 Image Format

Should be in BMP, JPG or JPEG.

2.7 Data Requirement

Should comply the following requirements:

(1). White background with dark-coloured apparel.

(2). 24bit true color mode.

(3). JPG format compressed image with not more than 20kb size.

(4). Definition rate between 358 x 441 to 1080 x 1920.

(5). The vertical scale of head and body should be 2:1.

(6). The photo should include the captured person’ s shoulders at the same horizontal level.

(7). The captured person should be eyes-open and with clearly seen iris.

(8). Plain face or smile is preferred, showing teeth is not preferred.

(9). The capture person should be clearly seen, natural in colour, and without image obvious twist, no shadow, light spot or reflection in face or background, and appropriate contrast and lightness level.

2.8 Examples of Visible Light Digital Face Image Registration

2.8.1 Conformity

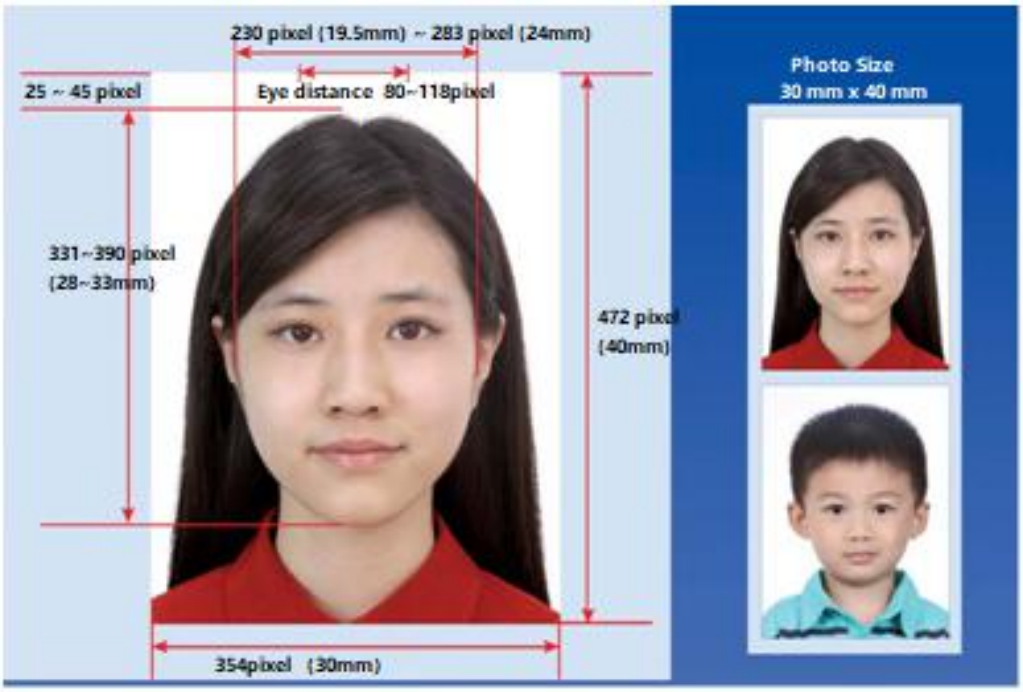


Image2 Conformity

2.8.2 Examples not Complying with Requirements

Too dark | Too bright | Saturation too low | Contrast too strong (highlighted face) | Unnatural skin colour | Shadow on face

Red eye | Resolution too low | Blurred image | Shadow in background | Eyes closed | Incorrect background Colour

Head to small | Head too large | Tilted head | Sideward body | Sideward head | Person not at the centre

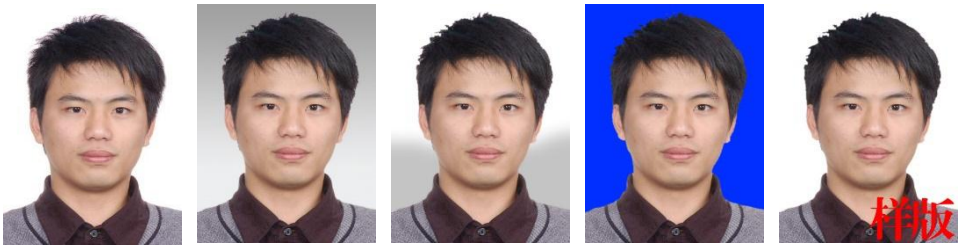
Hair covers eyebrows, eyes or ears | Hat or hair accessories cover face or Ears | Coarse-rimmed glasses | Eyeglasses frame covers eyes | Eyeglasses reflects lights | Colored eyeglasses

Stamp or other objects cover image | Apparel colour and background to similar | Image corrupted or has dirt | Other object(s) captured | Person doing movement | Unnatural facial expression or crying

Image3 Examples not Complying with the Requirements

2.8.3 Comparison

2.8.3.1 Background



Correct | non-white backgr-ound | Incomplete backg-round processing | Incorrect back-ground colour | Text in image

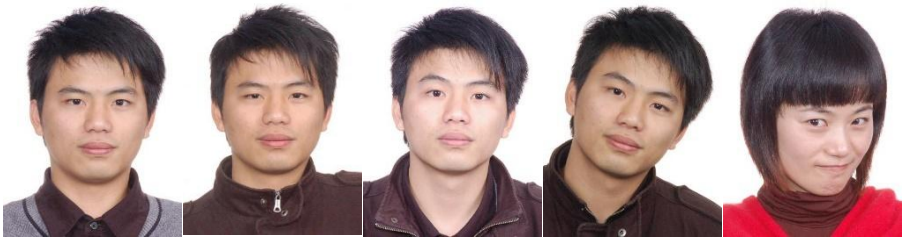
Image4 Head Scale Comparison

2.8.3.2 Head Scale

Correct | Head size too large | Head size too small | Gap too wide betw-een top edge and Head | Head not at the centre

Image5 Head Scale Comparison

2.8.3.3 Gesture



Correct | Shoulders not at the same level | Inclined head | Head tilted to right | Head rightward

Image6 Gesture Comparison

2.8.3.4 Eyes Comparison

Image7 Eyes Comparison

2.8.3.5 Facial Comparison

Image8 Facial Expression Comparison

2.8.3.6 Image Effect

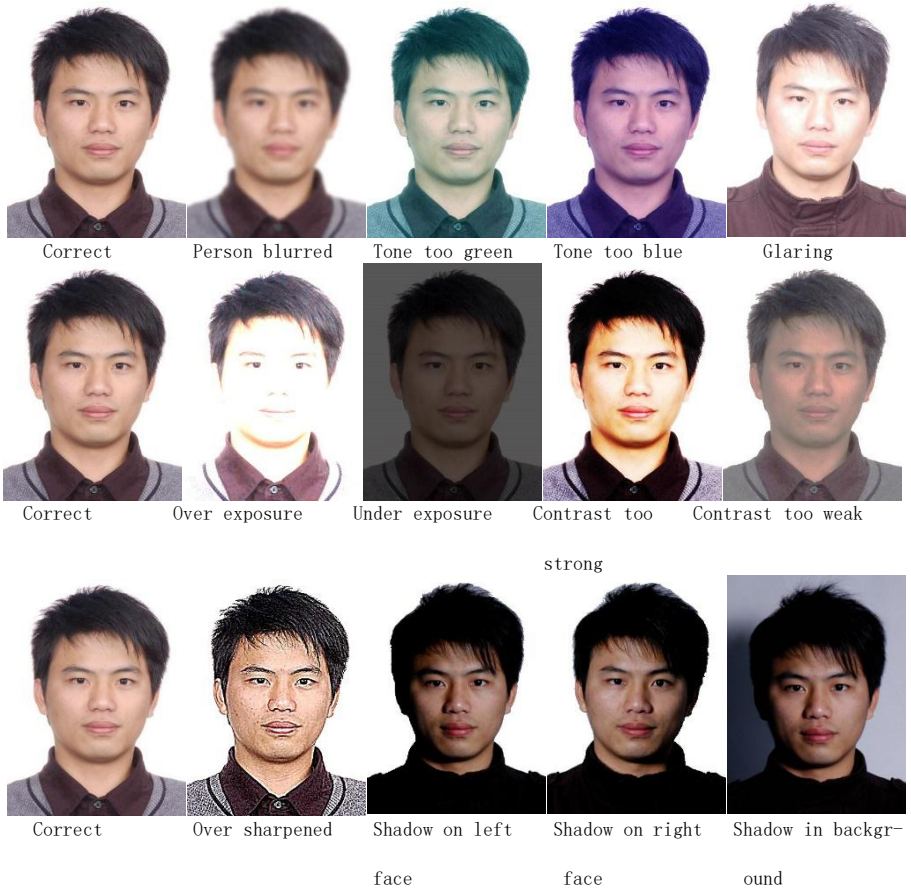


Image9 Iamge Effect Comparison