

CLAIMS

1. A method for face image processing, comprising:

acquiring first-key-point information of a first face image;

performing position transformation on the first-key-point information to obtain second-key-point information conforming to a second facial geometric attribute, the second facial geometric attribute being different from a first facial geometric attribute corresponding to the first-key-point information; and

performing facial texture coding processing by utilizing a neural network and the second-key-point information to obtain a second face image.

2. The method according to claim 1, wherein

after performing position transformation on the first-key-point information to obtain the second-key-point information conforming to the second facial geometric attribute, the method further comprises: adjusting the first face image based on the second-key-point information to obtain a third face image; and

after performing facial texture coding processing by utilizing the neural network and the second-key-point information to obtain the second face image, the method further comprises: fusing the second face image and the third face image to obtain a fourth face image.

3. The method according to claim 2, further comprising:

replacing the displayed first face image with the fourth face image or the second face image.

4. The method according to claim 1, wherein the first face image is contained in a predetermined image, the method further comprising:

fusing the fourth face image with a background area other than the first face image in the predetermined image to generate an updated image.

5. The method according to any one of claims 1 to 4, wherein performing facial texture coding processing by utilizing the neural network and the second-key-point information to obtain the second face image comprises:

generating a mask map of a target face based on the second-key-point information, values of pixels in a face image area in the mask map being a first predetermined value, values of pixels outside the face image area being a second predetermined value, and the face image area being defined by each second key point describing a facial contour;

fusing the mask map and the first face image to generate a fifth face image, the face image area in the first face image being reserved in the fifth face image;

generating a contour map of geometric attributes of a target face based on the second-key-point information, values of pixels on a contour line of each part in the contour map being a third predetermined value, values of pixels other than the pixels on the contour line of each part being a fourth predetermined value, and the contour line of each part being defined by second key points describing each face part; and

inputting the fifth face image and the contour map into the neural network for facial texture coding to obtain the second face image.

6. The method according to any one of claims 1 to 5, further comprising:

determining the first facial geometric attribute based on the first-key-point information; and

acquiring the second facial geometric attribute;

performing position transformation on the first-key-point information to obtain the second-key-point information conforming to the second facial geometric attribute comprises:

performing position transformation on the first-key-point information based on geometric attribute transformation parameters corresponding to both the first facial geometric attribute and the second facial geometric attribute to obtain the second-key-point information.

7. The method according to claim 6, wherein different first facial geometric attributes correspond to different geometric attribute transformation parameters; and/or different second facial geometric attributes correspond to different geometric attribute transformation parameters.

8. The method according to any one of claims 1 to 4, wherein performing facial texture coding processing by utilizing the neural network and the second-key-point information to obtain the second face image comprises:

generating a contour map of geometric attributes of a target face based on the second-key-point information, values of pixels on a contour line of each part in the contour map being a third predetermined value, values of pixels other than the pixels on the contour line of each part being a fourth predetermined value, and the contour line of each part being defined by second key points describing each face part; and

inputting the contour map into the neural network for facial texture coding to obtain the second face image.

9. An apparatus for face image processing, comprising:

a first acquisition module, configured to acquire first-key-point information of a first face image;

a transformation module, configured to perform position transformation on the first-key-point information to obtain second-key-point information conforming to a second facial geometric attribute, the second facial geometric attribute being different from a first facial geometric attribute corresponding to the first-key-point information; and

a coding module, configured to perform facial texture coding processing by utilizing a neural network and the second-key-point information to obtain a second face image.

10. The apparatus according to claim 9, further comprising a fusion module, wherein

the transformation module is further configured to, after performing position transformation on the first-key-point information to obtain the second-key-point information conforming to the second facial geometric attribute, adjust the first face image based on the second-key-point information to obtain a third face image; and

the fusion module is configured to, after the coding module performs facial texture coding processing by utilizing the neural network and the second-key-point information to obtain the second face image, fuse the second face image and the third face image to obtain a fourth face image.

11. The apparatus according to claim 10, further comprising:

a first replacement module, configured to replace the displayed first face image with the fourth face image or the second face image.

12. The apparatus according to claim 9, wherein the first face image is contained in a predetermined image, the apparatus further comprising:

a generation module, configured to fuse the fourth face image with a background area other than the first face image in the predetermined image to generate an updated image.

13. The apparatus according to claim 9, wherein the coding module is configured to:

generate a mask map of a target face based on the second-key-point information, values of pixels in a face image area in the mask map being a first predetermined value, values of pixels outside the face image area being a second predetermined value, and the face image area being defined by each second key point describing a facial contour;

fuse the mask map and the first face image to generate a fifth face image, the face image area in the first face image being reserved in the fifth face image;

generate a contour map of geometric attributes of a target face based on the second-key-point information, values of pixels on a contour line of each part in the contour map being a third predetermined value, values of pixels other than the pixels on the contour line of each part being a fourth predetermined value, and the contour line of each part being defined by second key points describing each face part; and

input the fifth face image and the contour map into the neural network for facial texture coding to obtain the second face image.

14. The apparatus according to any one of claims 9 to 13, further comprising:

a determination module, configured to determine the first facial geometric attribute based on the first-key-point information; and

a second acquisition module, configured to acquire a second geometric attribute of a target face,

wherein the transformation module is configured to perform position transformation on the first-key-point information based on facial-geometric-attribute transformation parameters corresponding to both the first facial geometric attribute and the second facial geometric attribute to obtain the second-key-point information.

15. The apparatus according to claim 14, wherein different first facial geometric attributes correspond to different facial-geometric-attribute transformation parameters; and/or different second facial geometric attributes correspond to different facial-geometric-attribute transformation parameters.

16. The apparatus according to any one of claims 9 to 15, wherein the coding module is configured to:

generate a contour map of geometric attributes of a target face based on the second-key-point information, values of pixels on a contour line of each part in the contour map being a third predetermined value, values of pixels other than the pixels on the contour line of each part being a fourth predetermined value, and the contour line of each part being defined by second key points describing each face part; and

input the contour map into the neural network for facial texture coding to obtain the second face image.

17. A computer storage medium, storing computer-executable instructions that, when executed, implement the operations of the method according to any one of claims 1 to 8.

18. An image device, comprising:

a memory; and

a processor, connected to the memory and configured to implement the operations of the method according to any one of claims 1 to 8 by executing computer-executable instructions stored on the memory.

19. A computer program, being configured to implement, when executed by a computer, the

operations of the method according to any one of claims 1 to 8.