

CLAIMS

1. An image processing method, comprising:

obtaining a first image, and performing grid partition on the first image to obtain a plurality of grid control planes, wherein a number of grid control planes is related to a proportion of a body region corresponding to a target object in the first image to the first image;

determining a target object in the first image; and

performing deformation processing on at least part of a body region of the target object corresponding to at least one of the plurality of grid control planes to generate a second image.

2. The method according to claim 1, wherein determining the target object in the first image comprises:

obtaining body detection information of the target object in the first image, the body detection information comprising body key point information and/or body contour point information,

wherein the body key point information comprises coordinate information of a body key point; and

the body contour point information comprises coordinate information of a body contour point.

3. The method according to claim 1 or 2, wherein performing deformation processing on at least part of the body region of the target object corresponding to at least one of the plurality of grid control planes comprises:

determining at least part of the body region to be subjected to deformation processing in the target object to obtain first body detection information of the at least part of the body region; and

determining a first group of grid control planes corresponding to the first body detection information, and performing deformation processing on the first group of grid

control planes.

4. The method according to claim 3, wherein determining the first group of grid control planes corresponding to the first body detection information, and performing deformation processing on the first group of grid control planes comprises:

determining a corresponding first group of grid control planes based on first body key point information and/or first body contour point information comprised in the first body detection information, the first group of grid control planes comprising at least one grid control plane; and

performing deformation processing on the at least one grid control plane to compress or stretch the at least part of the body region of the target object, and compress or stretch at least part of a background region other than the target object.

5. The method according to claim 3 or 4, wherein the grid control plane is a first-type grid control plane,

wherein determining the first group of grid control planes corresponding to the first body detection information, and performing deformation processing on the first group of grid control planes comprises:

determining at least one first-type grid control plane corresponding to the first body detection information, and performing deformation processing on the at least one first-type grid control plane based on a first deformation parameter to compress or stretch a part of the body region of the target object corresponding to the at least one first-type grid control plane, and compress or stretch at least part of a background region other than the target object.

6. The method according to claim 5, wherein the first-type grid control plane comprises a plurality of first-type grid control points,

wherein performing deformation processing on the at least one first-type grid control plane based on the first deformation parameter comprises:

moving at least part of the plurality of first-type grid control points comprised in the first-type grid control plane based on the first deformation parameter, to perform deformation processing on the first-type grid control plane,

wherein deformation of the first-type grid control plane is implemented by means of the

movement of any one of the plurality of first-type grid control points.

7. The method according to claim 3 or 4, wherein the grid control plane is a second-type grid control plane,

wherein determining the first group of grid control planes corresponding to the first body detection information, and performing deformation processing on the first group of grid control planes comprises:

determining at least one second-type grid control plane corresponding to the first body detection information, and performing deformation processing on the at least one second-type grid control plane based on a second deformation parameter to compress or stretch a part of the body region of the target object corresponding to the at least one second-type grid control plane, and compress or stretch at least part of a background region other than the target object.

8. The method according to claim 7, wherein the second-type grid control plane comprises a plurality of second-type grid control points,

wherein performing deformation processing on the at least one second-type grid control plane based on the second deformation parameter comprises:

moving at least part of the plurality of second-type grid control points comprised in the second-type grid control plane based on the second deformation parameter, to perform deformation processing on the second-type grid control plane,

wherein deformation of a region in the second-type grid control plane, corresponding to any one of the plurality of grid control points, is implemented by means of the movement of the second-type grid control point.

9. An image processing apparatus, comprising an obtaining unit, a grid partition unit, and an image processing unit, wherein:

the obtaining unit is configured to obtain a first image;

the grid partition unit is configured to perform grid partition on the first image obtained by the obtaining unit, to obtain a plurality of grid control planes, wherein a number of grid control planes is related to a proportion of a body region corresponding to a target

object in the first image to the first image; and

the image processing unit is configured to: determine a target object in the first image obtained by the obtaining unit; and perform deformation processing on at least part of a body region of the target object corresponding to at least one of the plurality of grid control planes to generate a second image.

10. The apparatus according to claim 9, wherein the image processing unit is configured to obtain body detection information of the target object in the first image; the body detection information comprises body key point information and/or body contour point information; the body key point information comprises coordinate information of a body key point; and the body contour point information comprises coordinate information of a body contour point.

11. The apparatus according to claim 9 or 10, wherein the image processing unit is configured to determine at least part of the body region to be subjected to deformation processing in the target object to obtain first body detection information of the at least part of the body region; and determine a first group of grid control planes corresponding to the first body detection information, and perform deformation processing on the first group of grid control planes.

12. The apparatus according to claim 11, wherein the image processing unit is configured to determine a corresponding first group of grid control planes based on first body key point information and/or first body contour point information comprised in the first body detection information, the first group of grid control planes comprising at least one grid control plane; and perform deformation processing on the at least one grid control plane to compress or stretch the at least part of the body region of the target object, and compress or stretch at least part of a background region other than the target object.

13. The apparatus according to claim 11 or 12, wherein the grid control plane is a first-type grid control plane;

the image processing unit is configured to determine at least one first-type grid control plane corresponding to the first body detection information, and perform deformation processing on the at least one first-type grid control plane based on a first deformation parameter to compress or stretch a part of the body region of the target object corresponding to the at least one

first-type grid control plane, and compress or stretch at least part of a background region other than the target object.

14. The apparatus according to claim 13, wherein the first-type grid control plane comprises a plurality of first-type grid control points;

the image processing unit is configured to move at least part of the plurality of first-type grid control points comprised in the first-type grid control plane based on the first deformation parameter, to perform deformation processing on the first-type grid control plane; wherein deformation of the first-type grid control plane is implemented by means of the movement of any one of the plurality of first-type grid control points.

15. The apparatus according to claim 11 or 12, wherein the grid control plane is a second-type grid control plane;

the image processing unit is configured to determine at least one second-type grid control plane corresponding to the first body detection information, and perform deformation processing on the at least one second-type grid control plane based on a second deformation parameter to compress or stretch a part of the body region of the target object corresponding to the at least one first-type grid control plane, and compress or stretch at least part of a background region other than the target object.

16. The apparatus according to claim 15, wherein the second-type grid control plane comprises a plurality of second-type grid control points;

the image processing unit is configured to move at least part of the plurality of second-type grid control points comprised in the second-type grid control plane based on the second deformation parameter, to perform deformation processing on the second-type grid control plane; wherein deformation of a region in the second-type grid control plane, corresponding to any one of the plurality of grid control points, is implemented by means of the movement of the second-type grid control point.

17. A computer-readable storage medium having a computer instruction stored thereon, wherein when the instruction is executed by a processor, operations of the image processing method according to any one of claims 1 to 8 are implemented.

18. An image processing apparatus, comprising a memory, a processor, and a computer program that is stored in the memory and may run on the processor, wherein operations of the image processing method according to any one of claims 1 to 8 are implemented when the program is executed by the processor.

19. A computer program, comprising a computer instruction, wherein when the computer instruction runs in a processor of a device, the method according to any one of claims 1 to 8 is implemented.