

CLAIMS

1. An image processing method, comprising:

obtaining a first image, identifying a target object in the first image, and obtaining body detection information of the target object;

obtaining first detection information related to a leg region of the target object in the body detection information; and

performing image deformation processing on the leg region corresponding to the first detection information to generate a second image.

2. The method according to claim 1, wherein the body detection information comprises body contour point information and/or body key point information;

the body contour point information comprising coordinate information of a body contour point; and

the body key point information comprising coordinate information of a body key point.

3. The method according to claim 2, wherein obtaining the first detection information related to the leg region of the target object in the body detection information comprises:

obtaining leg contour point information and/or leg key point information corresponding to the leg region of the target object in the body contour point information and/or body key point information.

4. The method according to claim 3, wherein performing the image deformation processing on the leg region corresponding to the first detection information comprises:

performing stretching and/or compression processing on the leg region corresponding to the leg contour point information and/or the leg key point information.

5. The method according to claim 3 or 4, wherein the leg contour point information comprises first leg contour point information and second leg contour point information; the first leg contour point information corresponding to an outer leg contour, and the second leg contour point information corresponding to an inner leg contour; and

performing the image deformation processing on the leg region corresponding to the first detection information comprises:

performing, for the leg region corresponding to the leg contour point information and/or the leg key point information, compression processing on the outer leg contour in a direction from the outer leg contour towards the inner leg contour, and performing compression processing on the inner leg contour in a direction from the inner leg contour towards the outer leg contour; or performing stretching processing on the outer leg contour in the direction from the inner leg contour towards the outer leg contour, and performing stretching processing on the inner leg contour in the direction from the outer leg contour towards the inner leg contour.

6. The method according to any one of claims 3 to 5, wherein the leg contour point information comprises third leg contour point information corresponding to a shank contour; and the leg key point information comprises first leg key point information corresponding to a shank region; and

wherein performing the image deformation processing on the leg region corresponding to the first detection information comprises:

performing stretching processing on the shank region corresponding to the third leg contour point information and/or the first leg key point information in a first direction, or performing compression processing in a second direction opposite to the first direction.

7. The method according to any one of claims 1 to 6, wherein obtaining the first detection information related to the leg region of the target object in the body detection information comprises:

obtaining waist contour point information in the body contour point information, and obtaining from the waist contour point information first waist contour point sub-information related to the leg region of the target object; and

performing the image deformation processing on the leg region corresponding to the first detection information comprises: performing compression processing on a part of a waist region corresponding to the first waist contour point sub-information in a third direction, to raise a part of a waist contour corresponding to the first waist contour point sub-information; or performing stretching processing on a part of the waist region corresponding to the first waist contour point sub-information in a fourth direction opposite to the third direction, to lower a part of the waist contour corresponding to the first waist contour point sub-information.

8. The method according to any one of claims 2 to 7, wherein performing the image deformation processing on the leg region corresponding to the first detection information comprises:

performing image deformation processing on the leg region corresponding to the first detection information according to a first type of deformation parameters corresponding to each point in the leg region,

wherein the first type of deformation parameters varies with a distance between a corresponding point in the leg region and a contour edge formed by the body contour point information.

9. The method according to any one of claims 1 to 8, wherein performing the image deformation processing on the leg region corresponding to the first detection information to generate the second image comprises:

performing image deformation processing on the leg region corresponding to the first detection information to obtain a first processing result;

performing image deformation processing on at least part of a background region, except a region in which the target object is located, in the first image to obtain a second processing result; and

generating the second image according to the first processing result and the second processing result.

10. The method according to claim 9, wherein performing image deformation processing on the at least part of the background region, except the region in which the target object is located, in the first image to obtain the second processing result comprises:

performing image deformation processing on the at least part of the background region according to a second type of deformation parameters corresponding to each point in the at least part of the background region;

wherein the second type of deformation parameters varies exponentially with a distance between a corresponding point in the at least part of the background region and a contour edge of the target object.

11. An image processing apparatus, comprising an obtaining unit and an image processing unit, wherein

the obtaining unit is configured to: obtain a first image, identify a target object in the first image, and obtain body detection information of the target object; and obtain first detection information related to a leg region of the target object in the body detection information; and

the image processing unit is configured to: perform image deformation processing on the leg region corresponding to the first detection information obtained by the obtaining unit to generate a second image.

12. The apparatus according to claim 11, wherein the body detection information comprises body contour point information and/or body key point information;

the body contour point information comprising coordinate information of a body contour point; and

the body key point information comprising coordinate information of a body key point.

13. The apparatus according to claim 12, wherein the obtaining unit is configured to obtain leg contour point information and/or leg key point information corresponding to the leg region of the target object in the body contour point information and/or body key point information.

14. The apparatus according to claim 13, wherein the image processing unit is configured to perform stretching and/or compression processing on the leg region corresponding to the leg contour point information and/or the leg key point information.

15. The apparatus according to claim 13 or 14, wherein the leg contour point information comprises first leg contour point information and second leg contour point information; the first leg contour point information corresponding to an outer leg contour; the second leg contour point information corresponding to an inner leg contour; and

the image processing unit is configured to: perform, for the leg region corresponding to the leg contour point information and/or the leg key point information, compression processing on the outer leg contour in a direction from the outer leg contour towards the inner leg contour, and perform compression processing on the inner leg contour in a direction from the inner leg contour towards the outer leg contour; or perform stretching processing on the outer leg contour in the direction from the inner leg contour towards the outer leg contour, and perform stretching processing on the inner leg contour in the direction from the outer leg

contour towards the inner leg contour.

16. The apparatus according to any one of claims 13 to 15, wherein the leg contour point information comprises third leg contour point information corresponding to a shank contour, and the leg key point information comprises first leg key point information corresponding to a shank region; and

the image processing unit is configured to: perform stretching processing on the shank region corresponding to the third leg contour point information and/or the first leg key point information in a first direction, or perform compression processing in a second direction opposite to the first direction.

17. The apparatus according to any one of claims 11 to 16, wherein the obtaining unit is configured to obtain waist contour point information in the body contour point information, and obtain from the waist contour point information first waist contour point sub-information related to the leg region of the target object; and

the image processing unit is configured to: perform compression processing on a part of a waist region corresponding to the first waist contour point sub-information in a third direction to raise a part of a waist contour corresponding to the first waist contour point sub-information; or perform stretching processing on a part of the waist region corresponding to the first waist contour point sub-information in a fourth direction opposite to the third direction to lower a part of the waist contour corresponding to the first waist contour point sub-information.

18. A computer-readable storage medium, having computer instructions stored thereon, wherein the instructions when being executed by a processor, implement operations of the image processing method according to any one of claims 1 to 10.

19. An image processing apparatus, comprising a memory, a processor, and computer programs stored in the memory and executable by the processor, wherein the processor, upon

execution of the programs, is configured to implement operations of the image processing method according to any one of claims 1 to 10.

20. A computer program product, comprising computer-executable instructions, wherein the computer-executable instructions, when being executed, enable to implement operations of the image processing method according to any one of claims 1 to 10.