

CLAIMS

1. An image processing method, comprising:

obtaining an image;

5 obtaining first rotation information of each of a plurality of nodes of a target based on the image;

determining, according to a hierarchical relationship among the nodes and a plurality of pieces of the first rotation information, second rotation information of each child node with respect to a parent node in the plurality of nodes of the target; and

10 controlling movements of nodes in a controlled model corresponding to the plurality of nodes based on a plurality of pieces of the second rotation information.

2. The method according to claim 1, wherein obtaining the first rotation information of each of the plurality of nodes of the target based on the image comprises:

obtaining the first rotation information of each of the plurality of nodes of the target in a camera coordinate system based on the image.

15 3. The method according to claim 2, wherein determining, according to the hierarchical relationship among the nodes and the plurality of pieces of first rotation information, the second rotation information of each child node with respect to the parent node in the plurality of nodes of the target comprises:

for each of the plurality of nodes,

20 taking the node as a child node; and

determining, according to the hierarchical relationship and the plurality of pieces of first rotation information, the second rotation information in a local coordinate system where the child node is located with respect to a local coordinate system where a parent node of the child node is located.

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

determining, for each of the plurality of nodes, a local coordinate system where the node is located according to the hierarchical relationship.

5. The method according to claim 4, wherein determining the local coordinate
5 system where the node is located according to the hierarchical relationship comprises:

taking the node as a child node;

taking a direction in which the child node points to a parent node of the child node
as a first direction of the local coordinate system according to the hierarchical
relationship;

10 taking a perpendicular direction of a plane where the child node and two nodes
connected to the child node are located as a second direction of the local coordinate
system; and

taking an orientation of a predetermined part of the target as a third direction of
the local coordinate system.

15 6. The method according to any one of claims 2 to 5, wherein obtaining the first
rotation information of each of the plurality of nodes of the target in the camera
coordinate system based on the image comprises:

obtaining a first quaternion of each of the plurality of nodes of the target in the
camera coordinate system based on the image.

20 7. The method according to any one of claims 2 to 6, wherein determining,
according to the hierarchical relationship among the nodes and the plurality of pieces
of first rotation information, the second rotation information of each child node with
respect to the parent node in the plurality of nodes of the target comprises:

taking each of the plurality of nodes as a child node and determining a parent node

of the child node according to the hierarchical relationship; and

for each child node, determining a second quaternion of the child node with respect to the parent node of the child node based on a first quaternion of the parent node of the child node in the camera coordinate system and a first quaternion of the child node in the camera coordinate system.

8. The method according to any one of claims 1 to 7, wherein controlling the movements of the nodes in the controlled model corresponding to the plurality of nodes based on the plurality of pieces of second rotation information comprises:

determining, for each piece of second rotation information, whether the second rotation information satisfies a constraint condition; and

in response to that the second rotation information satisfies the constraint condition, according to the second rotation information, controlling a movement of a node in the controlled model corresponding to a child node associated with the second rotation information.

9. The method according to claim 8, wherein determining, for each piece of second rotation information, whether the second rotation information satisfies the constraint condition comprises:

converting the second rotation information into a first angle in a coordinate system with a predetermined type;

determining whether the first angle is within a preset angle range; and

in response to that the first angle is within the preset angle range, determining that the second rotation information satisfies the constraint condition.

10. The method according to claim 9, further comprising:

determining that the second rotation information does not satisfy the constraint

condition in response to that the first angle is outside the preset angle range.

11. The method according to any one of claims 8 to 10, further comprising:

in response to that the second rotation information does not satisfy the constraint condition,

5 obtaining, by correcting the second rotation information, third rotation information; and

 controlling, according to the third rotation information, the movement of the node in the controlled model corresponding to the child node associated with the second rotation information.

10 12. The method according to claim 11, wherein in response to that the second rotation information does not satisfy the constraint condition, obtaining, by correcting the second rotation information, the third rotation information comprises:

 in response to that a first angle corresponding to the second rotation information is outside a preset angle range, obtaining, by correcting the first angle according to the
15 preset angle, a second angle; and

 obtaining the third rotation information according to the second angle.

13. The method according to any one of claims 9 to 12, wherein the coordinate system with the predetermined type is an Eulerian coordinate system.

14. The method according to any one of claims 1 to 3, wherein controlling the
20 movements of the nodes in the controlled model corresponding to the plurality of nodes based on the plurality of pieces of second rotation information comprises:

 obtaining a plurality of corrected fourth rotation information, respectively, by performing posture defect correction on the plurality of pieces of second rotation information or on a plurality of pieces of third rotation information generated by the

plurality of pieces of second rotation information; and

controlling the movements of the nodes in the controlled model corresponding to the plurality of nodes by using a plurality of pieces of the fourth rotation information.

15 15. The method according to claim 14, wherein the posture defect correction comprises at least one of:

an ipsilateral defect of upper and lower limbs;

a bowleg movement defect;

a splayfoot movement defect; or

a pigeon-toe movement defect.

10 16. The method according to claim 14 or 15, further comprising:

obtaining a posture defect correction parameter according to difference information between a body form of the target and a standard body form, wherein the posture defect correction parameter is used for correcting the plurality of pieces of second rotation information or the plurality of pieces of third rotation information.

15 17. The method according to any one of claims 1 to 16, further comprising:

obtaining, by correcting proportions of different parts of a standard model according to a proportional relationship among different parts of the target, a corrected controlled model.

18. An image device, comprising:

20 a memory; and

a processor coupled to the memory and configured to execute computer executable instructions on the memory, to implement a method provided by any one of claims 1 to 17.

19. A non-volatile computer storage medium storing computer executable

instructions that are executed by a processor to implement a method provided by any one of claims 1 to 17.