CLAIMS

1. A gesture recognition method, comprising:

obtaining a to-be-processed image for a game table captured by an image acquisition device;

obtaining a hand detection result by detecting the to-be-processed image;

in response to the hand detection result comprising a bounding box of hand, determining that a hand pose in the bounding box of hand conforms to a hand pose in a target gesture;

determining that a center point of the bounding box of hand is located in a pre-defined area of the to-be-processed image, wherein the pre-defined area is determined according to a position of the image acquisition device, internal parameters of the image acquisition device, and a specific area in the game table; and

determining that the hand makes the target gesture.

2. The method according to claim 1, wherein the in response to the hand detection result comprising a bounding box of hand, determining that a hand pose in the bounding box of hand conforms to a hand pose in a target gesture comprises:

in response to the hand detection result comprising the bounding box of hand, cropping an image located in the bounding box of hand in the to-be-processed image; and

determining, according to the cropped image, that the hand pose in the cropped image conforms to the hand pose in the target gesture.

3. The method according to claim 1 or 2, wherein the hand pose in the target gesture is two hands both facing up; and

the determining that a hand pose in the bounding box of hand conforms to a hand pose in a target gesture comprises:

inputting the image in the bounding box of hand into a hand classification neural network to obtain a hand classification result, the hand classification result comprising a hand facing up or the hand with other poses; and

if hand classification results of two bounding boxes of hand are hands facing up, determining that the hand poses in the bounding boxes of hand conform to the hand pose in the

target gesture.

4. The method according to claim 3, wherein the hand classification neural network is obtained by training with hand image samples, a hand image sample comprising an image sample with the hand facing up, and an annotation result of the image sample with the hand facing up being the palm of the hand.

5. The method according to claim 1, wherein the pre-defined area of the to-be-processed image comprises two set sub-areas corresponding to two sub-areas in the game table respectively; and

the determining that a center point of the bounding box of hand is located in the pre-defined area comprises: determining that the center points of the two bounding boxes of hand are located in the two set sub-areas, respectively.

6. The method according to claim 5, wherein the to-be-processed image is an image of the game table captured at an overhead view.

7. A gesture recognition apparatus, comprising:

an obtaining unit, configured to obtain a to-be-processed image for a game table captured by an image acquisition device and obtain a hand detection result by detecting the to-be-processed image;

a first determining unit, configured to, in response to the hand detection result comprising a bounding box of hand, determine that a hand pose in the bounding box of hand conforms to a hand pose in a target gesture;

a second determining unit, configured to determine that a center point of the bounding box of hand is located in a pre-defined area of the to-be-processed image, wherein the pre-defined area is determined according to a position of the image acquisition device, internal parameters of the image acquisition device, and a specific area in the game table; and

a third determining unit, configured to determine that the hand makes the target gesture.

8. The apparatus according to claim 7, wherein the first determining unit is specifically configured to: in response to the hand detection result comprising the bounding box of hand, crop an image located in the bounding box of hand in the to-be-processed image; and

determine, according to the cropped image, that the hand pose in the cropped image conforms to the hand pose in the target gesture.

9. The apparatus according to claim 7 or 8, wherein the hand pose in the target gesture is two hands both facing up; and

the first determining unit configured to determine that the hand pose in the bounding box of hand conforms to the hand pose in a target gesture, is specifically configured to:

input the image in the bounding box of hand into a hand classification neural network to obtain a hand classification result, the hand classification result comprising a hand facing up or the hand with other poses; and

if hand classification results of two bounding boxes of hand are hands facing up, determine that the hand poses in the bounding boxes of hand conform to the hand pose in the target gesture.

10. The apparatus according to claim 9, wherein the hand classification neural network is obtained by training with hand image samples, a hand image sample comprising an image sample with the hand facing up, and an annotation result of the image sample with the hand facing up being the palm of the hand.

11. The apparatus according to claim 7, wherein the pre-defined area of the to-be-processed image comprises two set sub-areas corresponding to two sub-areas in the game table respectively; and

the second determining unit is specifically configured to:

determine that the center points of the two bounding boxes of hand are located in the two set sub-areas, respectively.

12. The apparatus according to claim 11, wherein the to-be-processed image is an image of the game table captured at an overhead view.

13. An electronic device, comprising: a memory and a processor, wherein the memory is configured to store computer instructions which can be run on the processor, and the processor is configured to implement the method according to any one of claims 1 to 6 when executing the computer instructions.

14. A computer-readable storage medium having a computer program stored thereon, wherein when the program is executed by a processor, the method according to any one of claims 1 to 6 is implemented.