

WHAT IS CLAIMED IS:

1. A method for processing an image, comprising:

acquiring a first target area image of a target object and a second target area image of the target object, the first target area image being cut from a first image collected by a first image sensor of a binocular camera, the second target area image being cut from a second image collected by a second image sensor of the binocular camera;

determining a disparity between the first target area image and the second target area image by processing the first target area image and the second target area image; and

acquiring a prediction result of a disparity between the first image and the second image based on information on a displacement between the first target area image and the second target area image, as well as the disparity between the first target area image and the second target area image.

2. The method of claim 1, wherein acquiring the first target area image of the target object and the second target area image of the target object comprises:

acquiring the first image collected by the first image sensor of the binocular camera and the second image collected by the second image sensor of the binocular camera; and

acquiring the first target area image and the second target area image by performing target detection respectively on the first image and the second image.

3. The method of claim 1 or 2, wherein acquiring the first target area image of the target object comprises:

acquiring a first candidate area by performing target detection on the first image collected by the first image sensor of the binocular camera;

acquiring key point information by performing key point detection on an image of the first candidate area; and

cutting the first target area image from the first image according to the key point

information.

4. The method of any one of claims 1 to 3, wherein the first target area image and the second target area image are identical in size.

5. The method of claim 1, wherein determining the disparity between the first target area image and the second target area image by processing the first target area image and the second target area image comprises:

acquiring the disparity between the first target area image and the second target area image by processing the first target area image and the second target area image using a binocular matching neural network.

6. The method of claim 1, further comprising: before acquiring the prediction result of the disparity between the first image and the second image based on the information on the displacement between the first target area image and the second target area image as well as the disparity between the first target area image and the second target area image,

determining the information on the displacement between the first target area image and the second target area image based on a location of the first target area image in the first image and a location of the second target area image in the second image.

7. The method of any one of claims 1-6, wherein acquiring the prediction result of the disparity between the first image and the second image based on the information on the displacement between the first target area image and the second target area image as well as the disparity between the first target area image and the second target area image comprises:

acquiring the prediction result of a disparity between the first image and the second image as a sum of the disparity between the first target area image and the second target area image and the information on the displacement between the first target area image and the second target area image.

8. The method of any one of claims 1 to 7, further comprising:

determining depth information of the target object based on the prediction result of the disparity between the first image and the second image; and

determining whether the target object is alive based on the depth information of the target object.

9. The method of any one of claims 1 to 8, comprising at least one of:

wherein the binocular camera comprises a co-modal binocular camera or a cross-modal binocular camera,

wherein the first image sensor or the second image sensor comprises a visible light image sensor, a near infrared image sensor, or a dual-channel image sensor, or

wherein the target object comprises a face.

10. A method for processing an image, comprising:

acquiring a first target area image of a target object and a second target area image of the target object, the first target area image being cut from a first image of an image collection area collected at a first time point, the second target area image being cut from a second image of the image collection area collected at a second time point;

determining information on an optical flow between the first target area image and the second target area image by processing the first target area image and the second target area image; and

acquiring an optical flow prediction result between the first image and the second image based on information on a displacement between the first target area image and the second target area image, as well as the information on the optical flow between the first target area image and the second target area image.

11. The method of claim 10, comprising at least one of:

wherein acquiring the first target area image of the target object and the second target area image of the target object comprises: acquiring the first image of the image collection area collected at the first time point and the second image of the image collection area collected at the second time point; and acquiring the first target area image and the second

target area image by performing target detection respectively on the first image and the second image, or

wherein the first target area image and the second target area image are identical in size.

12. The method of claim 10 or 11, wherein acquiring the first target area image of the target object comprises:

acquiring a first candidate area by performing target detection on the first image of the image collection area collected at the first time point;

acquiring key point information by performing key point detection on an image of the first candidate area; and

cutting the first target area image from the first image according to the key point information.

13. The method of claim 10, wherein determining the information on the optical flow between the first target area image and the second target area image by processing the first target area image and the second target area image comprises:

acquiring the information on the optical flow between the first target area image and the second target area image by processing the first target area image and the second target area image using a neural network.

14. The method of claim 10, further comprising: before acquiring the optical flow prediction result between the first image and the second image based on the information on the displacement between the first target area image and the second target area image, as well as the information on the optical flow between the first target area image and the second target area image,

determining the information on the displacement between the first target area image and the second target area image based on a location of the first target area image in the first image and a location of the second target area image in the second image.

15. The method of claim 10 or 14, wherein acquiring the optical flow prediction result between the first image and the second image based on the information on the displacement between the first target area image and the second target area image, as well as the information on the optical flow between the first target area image and the second target area image comprises:

acquiring the optical flow prediction result between the first image and the second image as a sum of the information on the optical flow between the first target area image and the second target area image and the information on the displacement between the first target area image and the second target area image.

16. A device for processing an image, comprising an acquiring unit, a first determining unit, and a second determining unit,

wherein the acquiring unit is adapted to acquiring a first target area image of a target object and a second target area image of the target object, the first target area image being cut from a first image collected by a first image sensor of a binocular camera, the second target area image being cut from a second image collected by a second image sensor of the binocular camera,

wherein the first determining unit is adapted to determining a disparity between the first target area image and the second target area image by processing the first target area image and the second target area image,

wherein the second determining unit is adapted to acquiring a prediction result of a disparity between the first image and the second image based on information on a displacement between the first target area image and the second target area image, as well as the disparity between the first target area image and the second target area image.

17. A device for processing an image, comprising an acquiring unit, a first determining unit, and a second determining unit,

wherein the acquiring unit is adapted to acquiring a first target area image of a target object and a second target area image of the target object, the first target area image being cut from a first image of an image collection area collected at a first time point, the second target

area image being cut from a second image of the image collection area collected at a second time point,

wherein the first determining unit is adapted to determining information on an optical flow between the first target area image and the second target area image by processing the first target area image and the second target area image,

wherein the second determining unit is adapted to acquiring an optical flow prediction result between the first image and the second image based on information on a displacement between the first target area image and the second target area image, as well as the information on the optical flow between the first target area image and the second target area image.

18. Electronic equipment, comprising a processor and memory,

wherein the memory is adapted to storing a computer-readable instruction,

wherein the processor is adapted to implementing, by calling the computer-readable instruction stored in the memory, the method of any one of claims 1 to 9 or the method of any one of claims 10 to 15.

19. A computer-readable storage medium, having stored therein computer program instructions which, when executed by a processor, implement the method of any one of claims 1 to 9 or the method of any one of claims 10 to 15.

20. A computer program product, comprising computer instructions which, when executed by a processor, implement the method of any one of claims 1 to 9 or the method of any one of claims 10 to 15.