

CLAIMS

1. An image processing method, comprising:

outputting respective prediction results of a plurality of pixels in a first image by inputting the first image to an instance segmentation model for processing, each
5 of the prediction results comprising a semantic prediction result, a center relative position prediction result and a center region prediction result, wherein the semantic prediction result indicates that the pixel is located in an instance region or in a background region, the center relative position prediction result indicates a relative position between the pixel and an instance center, and the center region
10 prediction result indicates whether the pixel is located in an instance center region; and

determining at least one first pixel located in the instance region from the plurality of pixels based on the semantic prediction result of each of the plurality of pixels; wherein each of the prediction results further comprises position
15 information of the first pixel; and

determining, for each first pixel, an instance to which the first pixel belongs based on the center relative position prediction result, the position information and the center region prediction result of the first pixel.

20 2. The image processing method according to claim 1, wherein before processing the first image, the method further comprises:

obtaining the first image by preprocessing a second image, so that the first image satisfies a preset contrast ratio and/or a preset grayscale value.

25 3. The image processing method according to claim 1, wherein determining the instance to which the first pixel belongs based on the center relative position prediction result, the position information and the center region prediction result of the first pixel comprises:

determining at least one instance center region of the first image based on the

center region prediction result of each of the plurality of pixels; and

determining an instance center region corresponding to the first pixel from the at least one instance center region based on the center relative position prediction result and the position information of the first pixel.

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4. The image processing method according to claim 3, wherein determining the at least one instance center region of the first image based on the center region prediction result of each of the plurality of pixels comprises:

obtaining the at least one instance center region by performing connected
10 component search processing on the first image based on the center region prediction result of each of the plurality of pixels.

5. The image processing method according to claim 3 or 4, wherein determining the instance center region corresponding to the first pixel from the at
15 least one instance center region based on the center relative position prediction result and the position information of the first pixel comprises:

determining a center prediction position of the first pixel based on the position information of the first pixel and the center relative position prediction result of the first pixel, wherein the center prediction position indicates a predicted
20 center position of an instance center region to which the first pixel belongs; and

determining the instance center region corresponding to the first pixel from the at least one instance center region based on the center prediction position of the first pixel and position information of the at least one instance center region.

25 6. The image processing method according to claim 5, wherein determining the instance center region corresponding to the first pixel from the at least one instance center region based on the center prediction position of the first pixel and the position information of the at least one instance center region comprises:

in response to the center prediction position of the first pixel belonging to a

first instance center region in the at least one instance center region, determining the first instance center region as the instance center region corresponding to the first pixel; or

5 in response to the center prediction position of the first pixel not belonging to any instance center region in the at least one instance center region, determining, in the at least one instance center region, an instance center region closest to the center prediction position of the first pixel as the instance center region corresponding to the first pixel.

10 7. The image processing method according to any one of claims 3 to 6, wherein outputting the prediction results of the plurality of pixels in the first image by inputting the first image to the instance segmentation model for processing comprises:

15 obtaining respective center region prediction probabilities of the plurality of pixels in the first image by processing the first image; and

obtaining the center region prediction result of each of the plurality of pixels by performing binarization processing on the respective center region prediction probabilities of the plurality of pixels based on a first threshold.

20 8. An electronic device, comprising:

a predicting module, configured to output respective prediction results of a plurality of pixels in a first image by inputting the first image to an instance segmentation model for processing, each of the prediction results comprising a semantic prediction result, a center relative position prediction result and a center region prediction result, wherein the semantic prediction result indicates that the pixel is located in an instance region or in a background region, the center relative position prediction result indicates a relative position between the pixel and an instance center, and the center region prediction result indicates whether the pixel is located in an instance center region; and

30 a segmenting module comprising:

a first unit, configured to determine at least one first pixel located in the instance region from the plurality of pixels based on the semantic prediction result of each of the plurality of pixels; wherein each of the prediction results further comprises position information of the first pixel; and

- 5 a second unit, configured to determine an instance to which each first pixel belongs based on the center relative position prediction result, the position information and the center region prediction result of each first pixel.

9. An electronic device, comprising a processor and a memory, wherein the
10 memory is configured to store a computer program, the computer program is configured to be executed by the processor, and the processor is configured to perform the method according to any one of claims 1 to 7.

10. A computer-readable storage medium, configured to store a computer program,
15 wherein the computer program causes a computer to execute the method according to any one of claims 1 to 7.