

CLAIMS

1. A data processing method, comprising:

obtaining a plurality of video images of a target site within a predetermined time range;

5 performing pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on the identification result, a first customer counting result for a first region in the target site and a second customer counting result for a second region in the target site; and

determining a degree of association between the second region and the first region
10 based on the first customer counting result for the first region and the second customer counting result for the second region;

wherein performing pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on the identification result, the first customer counting result for the first region in the target site and the
15 second customer counting result for the second region in the target site comprises:

obtaining a plurality of first images of the first region included in the plurality of video images;

for each of the plurality of first images,

performing human body tracking on the first image to obtain a human body
20 tracking result for the first image;

in response to a human body image corresponding to the human body tracking result satisfying a predetermined condition, obtaining a pedestrian identification result based on human body image information corresponding to the human body tracking result;

in response to the human body image corresponding to the human body tracking result not satisfying the predetermined condition,

performing human face tracking on the first image to obtain a human face tracking result for the first image, and

5 obtaining a pedestrian identification result based on human face image information corresponding to the human face tracking result; and

obtaining the first customer counting result for the first region based on the pedestrian identification result for each of the plurality of first images of the first region.

2. The method of claim 1, wherein determining the degree of association between
10 the second region and the first region based on the first customer counting result for the first region and the second customer counting result for the second region comprises:

determining one or more target persons in both the first region and the second region based on the first customer counting result for the first region and the second customer counting result for the second region; and

15 determining the degree of association between the second region and the first region based on the number of the one or more target persons, the first customer counting result for the first region and the second customer counting result for the second region.

3. The method of claim 1 or claim 2, further comprising:

20 sending the degree of association between the second region and the first region to a terminal device, such that the terminal device displays the degree of association between the second region and the first region on a first interface.

4. The method of claim 1 or claim 2, further comprising:

ranking degrees of associations between N region pairs formed by a plurality of regions in the target site to obtain a ranking result, wherein the N region pairs comprise a region pair formed by the first region and the second region, wherein N is a positive integer; and

5 presenting M region pairs having top-M degrees of associations in the ranking result, or sending the M region pairs having top-M degrees of associations in the ranking result to a terminal device, wherein M is a positive integer less than N.

5. The method of claim 1 or claim 2, further comprising:

obtaining a region arrangement analysis result for a plurality of regions in the target
10 site based on degrees of associations between N region pairs formed by the plurality of regions, wherein the N is a positive integer; and

presenting the region arrangement analysis result, or sending the region arrangement analysis result to a terminal device.

6. The method of claim 1, wherein obtaining the pedestrian identification result
15 based on human body image information corresponding to the human body tracking result comprises:

determining whether a human body template matching the human body image information exists in a human body template database;

in response to determining that the human body template matching the human body
20 image information exists in the human body template database, using a pedestrian identifier corresponding to the human body template as the pedestrian identification result; and/or

in response to determining that the human body template matching the human body image information does not exist in the human body template database, using a newly added pedestrian identifier as the pedestrian identification result.

7. The method of claim 6, further comprising:

5 in response to determining that the human body template matching the human body image information exists in the human body template database, determining a human body identifier corresponding to the human body template;

using a pedestrian identifier corresponding to the human body identifier in an association database as the pedestrian identifier corresponding to the human body
10 template, wherein the association database is configured to store an association relationship between a predetermined human body identifier and a predetermined pedestrian identifier.

8. The method of claim 6 or claim 7, further comprising:

in response to determining that the human body template matching the human body
15 image information does not exist in the human body template database, adding a human body template corresponding to the human body image information to the human body template database.

9. The method of any one of claims 1 to 8, wherein obtaining the pedestrian identification result based on human face image information corresponding to the
20 human face tracking result comprises:

determining whether a human face template matching the human face image information exists in a human face template database;

in response to determining that the human face template matching the human face image information exists in the human face template database, using a pedestrian

identifier corresponding to the human face template as the pedestrian identification result; and/or

in response to determining that the human face template matching the human face image information does not exist in the human face template database, using a newly
5 added pedestrian identifier as the pedestrian identification result.

10. The method of claim 9, further comprising:

in response to determining that the human face template matching the human face image information does not exist in the human face template database, adding a human face template corresponding to the human face image information to the human face
10 template database.

11. The method of any one of claims 1 to 10, further comprising:

receiving a query request sent by a terminal device, wherein the query request comprises a query condition;

determining the degree of association between the second region and the first
15 region comprises:

determining the degree of association between the second region and the first region based on the query condition.

12. A data processing method applied to a terminal device, the method comprising:

receiving a degree of association between a first region and a second region both
20 in a target site; and

displaying the degree of association between the first region and the second region on a first interface;

wherein the degree of association between the first region and the second region is determined by:

obtaining a plurality of video images of a target site within a predetermined time range;

performing pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on the identification result, a first
5 customer counting result for a first region in the target site and a second customer counting result for a second region in the target site; and

determining a degree of association between the second region and the first region based on the first customer counting result for the first region and the second customer counting result for the second region;

10 wherein performing pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on the identification result, the first customer counting result for the first region in the target site and the second customer counting result for the second region in the target site comprises:

obtaining a plurality of first images of the first region included in the plurality of
15 video images;

for each of the plurality of first images,

performing human body tracking on the first image to obtain a human body tracking result for the first image;

in response to a human body image corresponding to the human body tracking
20 result satisfying a predetermined condition, obtaining a pedestrian identification result based on human body image information corresponding to the human body tracking result;

in response to the human body image corresponding to the human body tracking result not satisfying the predetermined condition,

performing human face tracking on the first image to obtain a human face tracking result for the first image, and

obtaining a pedestrian identification result based on human face image information corresponding to the human face tracking result; and

5 obtaining the first customer counting result for the first region based on the pedestrian identification result for each of the plurality of first images of the first region.

13. The method of claim 12, further comprising:

receiving a ranking result for degrees of associations between N region pairs formed by a plurality of regions in the target site, wherein the N region pairs comprise
10 a region pair formed by the first region and the second region, wherein N is a positive integer; and

displaying M region pairs having top-M degrees of associations in the ranking result, wherein M is a positive integer less than N.

14. The method of claim 12, further comprising:

15 receiving a region arrangement analysis result for a plurality of regions in the target site; and

displaying the region arrangement analysis result.

15. The method of any one of claims 12 to 14, further comprising:

obtaining a query condition;

20 sending a query request based on the query condition; and

receiving the degree of association between the first region and the second region determined based on the query condition.

16. A data processing apparatus, comprising:

an obtaining module, configured to obtain a plurality of video images of a target site within a predetermined time range;

a counting module, configured to perform pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on
5 the identification result, a first customer counting result for a first region in the target site and a second customer counting result for a second region in the target site; and

a processing module, configured to determine a degree of association between the second region and the first region based on the first customer counting result for the first region and the second customer counting result for the second region;

10 wherein performing pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on the identification result, the first customer counting result for the first region in the target site and the second customer counting result for the second region in the target site comprises:

obtaining a plurality of first images of the first region included in the plurality of
15 video images;

for each of the plurality of first images,

performing human body tracking on the first image to obtain a human body tracking result for the first image;

in response to a human body image corresponding to the human body tracking
20 result satisfying a predetermined condition, obtaining a pedestrian identification result based on human body image information corresponding to the human body tracking result;

in response to the human body image corresponding to the human body tracking result not satisfying the predetermined condition,

performing human face tracking on the first image to obtain a human face tracking result for the first image, and

obtaining a pedestrian identification result based on human face image information corresponding to the human face tracking result; and

5 obtaining the first customer counting result for the first region based on the pedestrian identification result for each of the plurality of first images of the first region.

17. A data processing apparatus applied to a terminal device, the apparatus comprising:

10 a communication module, configured to receive a degree of association between a first region and a second region both in a target site; and

a display module, configured to display the degree of association between the first region and the second region on a first interface;

wherein the degree of association between the first region and the second region is determined by:

15 obtaining a plurality of video images of a target site within a predetermined time range;

performing pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on the identification result, a first customer counting result for a first region in the target site and a second customer

20 counting result for a second region in the target site; and

determining a degree of association between the second region and the first region based on the first customer counting result for the first region and the second customer counting result for the second region;

wherein performing pedestrian identification processing on the plurality of video images to obtain an identification result, and obtaining, based on the identification result, the first customer counting result for the first region in the target site and the second customer counting result for the second region in the target site comprises:

5 obtaining a plurality of first images of the first region included in the plurality of video images;

 for each of the plurality of first images,

 performing human body tracking on the first image to obtain a human body tracking result for the first image;

10 in response to a human body image corresponding to the human body tracking result satisfying a predetermined condition, obtaining a pedestrian identification result based on human body image information corresponding to the human body tracking result;

 in response to the human body image corresponding to the human body tracking
15 result not satisfying the predetermined condition,

 performing human face tracking on the first image to obtain a human face tracking result for the first image, and

 obtaining a pedestrian identification result based on human face image information corresponding to the human face tracking result; and

20 obtaining the first customer counting result for the first region based on the pedestrian identification result for each of the plurality of first images of the first region.

18. A data processing apparatus, comprising: a memory, a processor, and a computer program stored on the memory and executable on the processor;

wherein when the computer program is executed by the processor, the data processing method according to any one of claims 1 to 15 is implemented.

19. A computer storage medium storing a computer program, when the computer program is executed by a processor, the processor is caused to perform the data
5 processing method according to any one of claims 1 to 15.

20. A computer program, wherein the computer program causes a computer to perform the data processing method according to any one of claims 1 to 15.