CLAIMS

What is claimed is:

1. A road information processing method, comprising:

acquiring a road image, and identifying a street lamp in the road image to obtain a street lamp identification result;

associating the road image with an electronic map to obtain a road corresponding to the road image in the electronic map; and

marking a street lamp attribute for the road corresponding to the road image in the electronic map based on the street lamp identification result, wherein the street lamp attribute includes information on whether a street lamp is present and the number of street lamps;

the method further comprises:

in response to the fact that a request for acquiring a navigation route is received, generating an alternative navigation route matched with the request; and

setting a recommendation level of the alternative navigation route based on the street lamp attribute of a road contained in the alternative navigation route;

wherein the identifying the street lamp in the road image to obtain the street lamp identification result comprises:

identifying a lamp cap in the road image based on a target detection model, to obtain a pixel coordinate set of the lamp cap in the road image;

identifying a whole lamp comprising the lamp cap in the road image based on a semantic segmentation model, to obtain a pixel coordinate set of the whole lamp in the road image; and

determining that the street lamp is identified in the road image in response to the fact that the pixel coordinate set of the lamp cap in the road image overlaps with the pixel coordinate set of the whole lamp in the road image.

2. The method of claim 1, wherein the associating the road image with the electronic map to obtain the road corresponding to the road image in the electronic map comprises:

based on a directed graph model, associating shooting coordinate information of the road image with road information in the electronic map, and determining a road corresponding to the associated road information to be the road corresponding to the road image.

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

determining a display style of each road in the electronic map based on the street lamp attribute of each road in the electronic map.

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

determining a road where a user is located based on location information; and

in response to the fact that the street lamp attribute of the road where the user is located is presence of no street lamp, outputting safety prompt information.

5. A road information processing apparatus, comprising:

an identification module configured for acquiring a road image, and identifying a street lamp in the road image to obtain a street lamp identification result;

an association module configured for associating the road image with an electronic map to obtain a road corresponding to the road image in the electronic map; and

a marking module configured for marking a street lamp attribute for the road corresponding to the road image in the electronic map based on the street lamp identification result, wherein the street lamp attribute includes information on whether a street lamp is present and the number of street lamps;

the apparatus further comprises:

a generating module configured for, in response to the fact that a request for acquiring a navigation route is received, generating an alternative navigation route matched with the request; and

a recommendation module configured for setting a recommendation level of the alternative navigation route based on the street lamp attribute of a road contained in the alternative navigation route;

wherein the identification module is configured for:

identifying a lamp cap in the road image based on a target detection model, to obtain a pixel coordinate set of the lamp cap in the road image;

identifying a whole lamp comprising the lamp cap in the road image based on a semantic segmentation model, to obtain a pixel coordinate set of the whole lamp in the road image; and

determining that the street lamp is identified in the road image in response to the fact that the pixel coordinate set of the lamp cap in the road image overlaps with the pixel coordinate set of the whole lamp in the road image.

6. The apparatus of claim 5, wherein the association module is configured for, based on a directed graph model, associating shooting coordinate information of the road image with road information in the electronic map, and determining a road corresponding to the associated road information to be the road corresponding to the road image.

7. The apparatus of claim 5 or 6, further comprising:

a first determination module configured for determining a display style of each road in the electronic map based on the street lamp attribute of each road in the electronic map.

8. The apparatus of claim 5 or 6, further comprising:

a second determination module configured for determining a road where a user is located based on location information; and

an output module configured for, in response to the fact that the street lamp attribute of the road where the user is located is presence of no street lamp, outputting safety prompt information.

9. An electronic device, comprising:

at least one processor; and

a memory communicatively connected to the at least one processor, wherein

the memory stores instructions executable by the at least one processor, and the instructions are executed by the at least one processor to enable the at least one processor to perform the method of any one of claims 1-4.

10. A non-transitory computer-readable storage medium storing computer instructions, wherein the computer instructions cause a computer to perform the method of any one of claims 1-4.