collision time is greater than the first time threshold, determining the danger level of the target object to be the sixth danger level.

The danger degree of the sixth danger level may be lower than that of the fifth danger level.

In a possible implementation, the state of the target object may include the abnormal state. The danger level may include a seventh danger level and an eighth danger level. The determining the danger level of the target object according to the state of the target object and the collision time may include: when the state of the target object is the abnormal state and the collision time is smaller than or equal to a second time threshold, determining the danger level of the target object to be the seventh danger level; or when the state of the target object is the abnormal state and the collision time is greater than the second time threshold, determining the danger level of the target object to be the eighth danger level.

The danger degree of the eighth danger level may be lower than that of the seventh danger level.

The first time threshold may be smaller than the second time threshold. For example, for the passerby in the normal state, because the dangerousness is low, a smaller time threshold (the first time threshold) may be set, for example, 1 min. For the passerby in the abnormal state (for example, moving slowly, drunk, disabled, aged), a greater time threshold (the second time threshold) may be set, for example, 3 min, so as to perform the collision control as early as possible.

In the embodiments, the danger level is determined by combining the state of the target object and the collision time, so that the determination of the danger level is more accurate.

It can be understood that the foregoing various method embodiments mentioned in the present disclosure may be combined with each other to form a combined embodiment without departing from the principle logic. Details are not described herein again due to space limitation.

In addition, the present disclosure further provides a collision control apparatus, an electronic device, a computer readable storage medium, and a program, which can all be configured to implement any one of the collision control methods provided in the present

disclosure. For the corresponding technical solutions and descriptions, please refer to the corresponding contents in the method parts. Details are not described herein again.

FIG. 6 is a block diagram illustrating a collision control apparatus according to one embodiment of the present disclosure. As shown in FIG. 6, the collision control apparatus includes:

a detection module 10, configured to a target object in an image photographed by a current object;

a determination module 20, configured to determine a danger level of the target object; and

an execution module 30, configured to execute collision control corresponding to the danger level.

In the embodiments of the present disclosure, by detecting the target object in the image photographed by the current object and determining the danger level of the target object to perform corresponding collision control, accurate and targeted collision control for the target object is implemented.In a possible implementation, the detection module is configured to detect the target object in the image photographed by the current object by means of a neural network.

In the embodiments, the target object is detected on the basis of the neural network, and the target object may be quickly and accurately detected in the image by using a powerful and accurate detection function of the neural network.

In a possible implementation, the detection module is configured to detect the state of the target object in the image photographed by the current object.

The determination module is configured to determine the danger level of the target object according to the state of the target object.

In the embodiments, the danger level of the target object is determined according to the state of the target object, and different danger levels may be set by using rich states of the target object according to requirements, so that the collision control is more flexible and precise.

In a possible implementation, the current object includes a driving object. The execution module is configured to:

execute collision warning corresponding to the danger level, and/or execute driving control

CLAIMS

1. A collision control method, comprising:

detecting a target object in an image photographed by a current object;

determining a danger level of the target object; and

executing collision control corresponding to the danger level.

2. The method according to claim 1, wherein detecting the target object in the image photographed by the current object comprises: detecting the target object in the image photographed by the current object by means of a neural network.

3. The method according to claim 1 or 2, wherein detecting the target object in the image photographed by the current object comprises:

detecting the state of the target object in the image photographed by the current object; and

determining the danger level of the target object comprises:

determining the danger level of the target object according to the state of the target object.

4. The method according to any one of claims 1 to 3, wherein the current object comprises a driving object, and executing the collision control corresponding to the danger level comprises:

executing collision warning corresponding to the danger level, and/or

executing driving control corresponding to the danger level, the driving control comprising at least one of the following: changing a driving direction, changing a driving speed, and stopping.

5. The method according to any one of claims 1 to 3, wherein the current object comprises a static object, and executing the collision control corresponding to the danger level comprises:

executing the collision warning corresponding to the danger level.

6. The method according to any one of claims 3 to 5, wherein determining the danger

level of the target object comprises:

determining the distance between the target object and the current object; and

determining the danger level of the target object according to the state of the target object and the distance.

7. The method according to claim 6, wherein the state of the target object comprises a normal state, the danger level comprises a first danger level and a second danger level, and determining the danger level of the target object according to the state of the target object and the distance comprises:

when the state of the target object is the normal state and the distance is smaller than or equal to a first distance threshold, determining the danger level of the target object to be the first danger level; or

when the state of the target object is the normal state and the distance is greater than the first distance threshold, determining the danger level of the target object to be the second danger level.

8. The method according to claim 6, wherein the state of the target object comprises an abnormal state, the danger level comprises a third danger level and a fourth danger level, and determining the danger level of the target object according to the state of the target object and the distance comprises:

when the state of the target object is the abnormal state and the distance is smaller than or equal to a second distance threshold, determining the danger level of the target object to be the third danger level, or

when the state of the target object is the abnormal state and the distance is greater than the second distance threshold, determining the danger level of the target object to be the fourth danger level.

9. The method according to any one of claims 3 to 5, wherein determining the danger level of the target object comprises:

predicting a collision time between the target object and the current object; and

determining the danger level of the target object according to the state of the target object

and the collision time.

10. The method according to claim 9, wherein the state of the target object comprises the normal state, the danger level comprises a fifth danger level and a sixth danger level, and determining the danger level of the target object according to the state of the target object and the collision time comprises:

when the state of the target object is the normal state and the collision time is smaller than or equal to the first time threshold, determining the danger level of the target object to be the fifth danger level; or

when the state of the target object is the normal state and the collision time is greater than the first time threshold, determining the danger level of the target object to be the sixth danger level.

11. The method according to claim 9, wherein the state of the target object comprises the abnormal state, the danger level comprises a seventh danger level and an eighth danger level, and determining the danger level of the target object according to the state of the target object and the collision time comprises:

when the state of the target object is the abnormal state and the collision time is smaller than or equal to the second time threshold, determining the danger level of the target object to be the seventh danger level; or

when the state of the target object is the abnormal state and the collision time is greater than the second time threshold, determining the danger level of the target object to be the eighth danger level.

12. The method according to any one of claims 1 to 11, wherein the target object comprises at least one of the following: a passerby, a vehicle, an animal, a plant, an obstacle, a robot, or a building.

13. The method according to any one of claims 1 to 12, wherein when the target object is the passerby, the state of the target object comprises one or any combination of the following states: a movement state, a body state, and an attribute state;

the movement state comprises one or any combination of the following states: a

position, a speed, an acceleration, and a moving direction;

the body state comprises one or any combination of the following states: picking up articles and lowering the head; and

the attribute state comprises one or any combination of the following states: an age state and a physical state.

14. The method according to any one of claims 1 to 12, wherein when the target object is the vehicle, the state of the target object comprises one or any combination of the following states: a movement state, a behavior state, and an attribute state; wherein

the movement state comprises one or any combination of the following states: the position, the speed, the acceleration, and a direction;

the behavior state comprises one or any combination of the following states: dangerous driving states; and

the attribute state comprises one or any combination of the following states: a motor vehicle, a non-motor vehicle, and a vehicle type.

15. A collision control apparatus, comprising:

a detection module, configured to detect a target object in an image photographed by a current object;

a determination module, configured to determine a danger level of the target object; and

an execution module, configured to execute collision control corresponding to the danger level.

16. The apparatus according to claim 15, wherein the detection module is configured to detect the target object in the image photographed by the current object by means of a neural network.

17. The apparatus according to claim 15 or 16, wherein

the detection module is configured to detect the state of the target object in the image photographed by the current object;

the determination module is configured to determine the danger level of the target object

according to the state of the target object.

18. An electronic device, comprising:

a processor; and

a memory configured to store processor-executable instructions;

wherein the processor executes the method according to any one of claims 1 to 14 by directly or indirectly calling the executable instructions.

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

20. A computer program, comprising a computer readable code, wherein when the computer readable code runs in an electronic device, a processor in the electronic device executes instructions for implementing the method according to any one of claims 1 to 14.