CLAIMS

1. A method for target tracking, comprising:

determining, according to a historical image frame adjacent to a current image frame, predicted target position information of at least one first target object and predicted blocking object position information of a respective blocking object, wherein each blocking object is a target closest to a respective first target object;

determining, according to a historical image frame sequence before the current image frame, a historical target appearance feature sequence corresponding to the at least one first target object and a historical blocking object appearance feature sequence corresponding to the blocking object;

determining, according to the current image frame, current target position information and a current target appearance feature of at least one second target object;

determining target similarity information between each first target object and a respective second target object according to the predicted target position information, the historical target appearance feature sequence, the current target position information, and the current target appearance feature;

determining blocking object similarity information according to the predicted blocking object position information, the historical blocking object appearance feature sequence, the current target position information, and the current target appearance feature; and

determining a tracking trajectory of the at least one first target object according to the target similarity information and the blocking object similarity information.

2. The method according to claim 1, wherein determining the target similarity information between each first target object and the respective second target object according to the predicted target position information, the historical target appearance feature sequence, the current target position information, and the current target appearance feature comprises:

determining a target position similarity according to the predicted target position information and the current target position information;

determining a target appearance similarity sequence according to the historical target appearance feature sequence and the current target appearance feature; and

determining the target position similarity and the target appearance similarity sequence as

the target similarity information.

3. The method according to claim 1, wherein determining blocking object similarity information according to the predicted blocking object position information, the historical blocking object appearance feature sequence, the current target position information, and the current target appearance feature comprises:

determining a blocking object position similarity according to the predicted blocking object position information and the current target position information;

determining a blocking object appearance similarity according to the historical blocking object appearance feature sequence and the current target appearance feature; and

determining the blocking object position similarity and the blocking object appearance similarity as the blocking object similarity information.

4. The method according to claim 1, wherein determining the predicted target position information of the at least one first target object and the predicted blocking object position information of the respective blocking object comprises:

determining the predicted target position information and the predicted blocking object position information using a neural network capable of implementing single target tracking.

5. The method according to claim 1, wherein determining the historical target appearance feature sequence corresponding to the at least one first target object and the historical blocking object appearance feature sequence corresponding to the blocking object comprises:

determining the historical target appearance feature sequence and the historical blocking object appearance feature sequence using a neural network capable of implementing person re-identification.

6. The method according to claim 1, wherein determining the tracking trajectory of the at least one first target object according to the target similarity information and the blocking object similarity information comprises:

determining a target trajectory association relationship between the first target object and the respective second target object according to the target similarity information and the blocking

object similarity information; and

searching the at least one second target object for a target associated with the at least one first target object using the target trajectory association relationship to determine the tracking trajectory of the at least one first target object.

7. The method according to claim 6, wherein determining the target trajectory association relationship between the first target object and the respective second target object according to the target similarity information and the blocking object similarity information comprises:

inputting the target similarity information and the blocking object similarity information to a preset classifier;

determining multiple decision scores of multiple trajectory association relationships using the preset classifier, wherein the multiple trajectory association relationships are trajectory association relationships obtained by performing trajectory association between the at least one first target object and the respective second target object; and

determining, as the target trajectory association relationship, a trajectory association relationship having a highest decision score among the multiple trajectory association relationships.

8. The method according to claim 6, wherein after determining the target trajectory association relationship between the first target object and the respective second target object according to the target similarity information and the blocking object similarity information, the method further comprises:

if a third target object that is not associated with the at least one second target object is determined from among the at least one first target object in the target association relationship, obtaining the predicted target position information according to a confidence value of the third target object; and

determining the tracking trajectory of the at least one first target object using the target association relationship and the predicted target position information.

9. The method according to claim 6, wherein after determining the target trajectory association relationship between the first target object and the respective second target object according to

the target similarity information and the blocking object similarity information, the method further comprises:

if a fourth target object that is not associated with the at least one first target object is determined from among the at least one second target object in the target association relationship, adding the fourth target object to a next round of association relationship, wherein the next round of association relationship is an association relationship generated by taking the current image frame as the historical image frame.

10. The method according to claim 4, further comprising:

determining a confidence value corresponding to the first target object using the neural network capable of implementing single target tracking.

11. The method according to claim 8, wherein obtaining the predicted target position information according to the confidence value of the third target object comprises:

if the confidence value of the third target object meets a preset confidence value, obtaining the predicted target position information.

12. The method according to any one of claims 1 to 11, wherein a number of the at least one first target object and a number of the at least one second target object are both more than one.

13. An apparatus for target tracking, comprising:

a first determining module, configured to: determine, according to a historical image frame adjacent to a current image frame, predicted target position information of at least one first target object and predicted blocking object position information of a respective blocking object, wherein each blocking object is a target closest to a respective first target object; determine, according to a historical image frame sequence before the current image frame, a historical target appearance feature sequence corresponding to the at least one first target object and a historical blocking object appearance feature sequence corresponding to the blocking object; and determine, according to the current image frame, current target position information and a current target appearance feature of at least one second target object;

a second determining module, configured to: determine target similarity information

between each first target object and a respective second target object according to the predicted target position information, the historical target appearance feature sequence, the current target position information, and the current target appearance feature; and determine blocking object similarity information according to the predicted blocking object position information, the historical blocking object appearance feature sequence, the current target position information, and the current target appearance feature; and

a trajectory tracking module, configured to determine a tracking trajectory of the at least one first target object according to the target similarity information and the blocking object similarity information.

14. The apparatus according to claim 13, wherein

the first determining module is further configured to determine a target position similarity according to the predicted target position information and the current target position information; determine a target appearance similarity sequence according to the historical target appearance feature sequence and the current target appearance feature; and determine the target position similarity and the target appearance similarity sequence as the target similarity information.

15. The apparatus according to claim 13, wherein

the first determining module is further configured to: determine a blocking object position similarity according to the predicted blocking object position information and the current target position information; determine a blocking object appearance similarity according to the historical blocking object appearance feature sequence and the current target appearance feature; and determine the blocking object position similarity and the blocking object appearance similarity as the blocking object similarity information.

16. The apparatus according to claim 13, wherein

the first determining module is further configured to determine the predicted target position information and the predicted blocking object position information using a neural network capable of implementing single target tracking.

17. The apparatus according to claim 13, wherein

the first determining module is further configured to determine the historical target appearance feature sequence and the historical blocking object appearance feature sequence using a neural network capable of implementing person re-identification.

18. An apparatus for target tracking, comprising a processor, a memory, and a communication bus, wherein when the processor executes a running program stored in the memory, the method according to any one of claims 1 to 12 is implemented.

19. A computer readable storage medium, having a computer program stored thereon, applied to an apparatus for target tracking, wherein when the computer program is executed by a processor, the method according to any one of claims 1 to 12 is implemented.

20. A computer program product, wherein when the computer program product is executed by a processor, the method according to any one of claims 1 to 12 can be implemented.