

technology that accuracy of verifying false address information is low because accuracy of verifying address information is low and it is difficult to verify a mapping relationship between an address and an account.

[0011] The implementations of the present application use the following technical solutions.

[0012] A method for identifying false address information includes the following: determining address information of an account to be verified; determining, in a geographical range obtained through pre-division, a residential range of the account based on a trained classification model and geographical location information that is reported by the account within a predetermined time period; matching the address information to be verified with the residential range; and determining, based on a result of matching between the address information to be verified and the residential range, whether the address information to be verified is false address information.

[0013] An apparatus for identifying false address information includes the following: a first determining module, configured to determine address information of an account to be verified; a second determining module, configured to determine, in a geographical range obtained through pre-division, a residential range of the account based on a trained classification model and geographical location information that is reported by the account within a predetermined time period; a matching module, configured to match the address information to be verified with the residential range; and an identification module, configured to determine, based on a result of matching between the address information to be verified and the residential range, whether the address information to be verified is false address information.

[0013a] According to one embodiment, there is provided a computer-implemented method for identifying false address information, the computer-implemented method comprising: transmitting address query information to an account for an address information to be verified; receiving the address information from the account; receiving geographical location information from the account of a predetermined time period; determining, in a geographical range obtained through pre-division, a residential range of the account based on a trained classification model and the geographical location information, wherein obtaining the geographical range through pre-division comprises: dividing a map into several grids based on a predetermined grid size; and using each grid on the map as the geographical range obtained through pre-division, and wherein the classification model is trained by using the following

method: determining several accounts with real known address information as training samples; determining, based on several pieces of geographical location information reported by each training sample, a quantity of times that the training sample appears in each grid; determining a characteristic value corresponding to the training sample
5 in each grid based on the quantity of times that the training sample appears in each grid; and training the classification model based on the characteristic value corresponding to the training sample in each grid and real known address information of the training sample; matching the address information to be verified with the residential range; and determining whether the address information to be verified is
10 false address information, based on a result of matching between the address information and the residential range.

[0013b] According to another embodiment, there is provided an apparatus for identifying false address information, the apparatus comprising a plurality of modules configured to perform any one of the computer-implemented methods described
15 herein.

[0014] The at least one technical solution used in the implementations of the present application can achieve the following beneficial effects.

[0015] Firstly, the address information of the account to be verified is determined; secondly, in the geographical range obtained through pre-division, the residential
20 range of the account is determined by using the trained classification model based on the geographical location information reported by the account within the predetermined time period; thirdly, whether the address information to be verified is false address information is determined based on a result of matching between the address information to be verified and a grid corresponding to the residential range. It
25 can be seen that, in the present application, a residential range of a user who uses the account is determined by using a classification model and geographical location

CLAIMS

1. A computer-implemented method for identifying false address information, the computer-implemented method comprising:

5 transmitting address query information to an account for an address information to be verified;

 receiving the address information from the account;

 receiving geographical location information from the account of a predetermined time period;

10 determining, in a geographical range obtained through pre-division, a residential range of the account based on a trained classification model and the geographical location information,

 wherein obtaining the geographical range through pre-division comprises:

 dividing a map into several grids based on a predetermined grid size; and

 using each grid on the map as the geographical range obtained through pre-

15 division, and

 wherein the classification model is trained by using the following method:

 determining several accounts with real known address information as training samples;

20 determining, based on several pieces of geographical location information reported by each training sample, a quantity of times that the training sample appears in each grid;

 determining a characteristic value corresponding to the training sample in each grid based on the quantity of times that the training sample appears in each grid; and

25 training the classification model based on the characteristic value corresponding to the training sample in each grid and real known address information of the training sample;

 matching the address information to be verified with the residential range; and

 determining whether the address information to be verified is false address information, based on a result of matching between the address information and the residential range.

2. The computer-implemented method of claim 1, wherein the geographical location information comprises a latitude and a longitude.

5 3. The computer-implemented method of claim 2, wherein the geographical location information further comprises positioning accuracy.

4. The computer-implemented method of claim 3, wherein determining, in the geographical range obtained through pre-division, the residential range of the account based on the trained
10 classification model and geographical location information that is reported by the account of a predetermined time period comprises:

 determining, based on a predetermined positioning accuracy threshold, geographical location information whose positioning accuracy is not less than the predetermined positioning accuracy threshold from the geographical location information reported by the account of the
15 predetermined time period; and

determining, in the geographical range obtained through pre-division, the residential range of the account based on the trained classification model and the geographical location information whose positioning accuracy is not less than the predetermined positioning accuracy threshold.

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5. The computer-implemented method of claim 1, wherein determining, in the geographical range obtained through pre-division, the residential range of the account based on the trained classification model and geographical location information that is reported by the account of the predetermined time period comprises:

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determining a characteristic value corresponding to the account in each grid based on the geographical location information reported by the account of the predetermined time period; and

inputting the characteristic value corresponding to the account in each grid into the trained classification model to determine the residential range of the account.

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6. The computer-implemented method of claim 1, wherein determining, based on the result

of matching between the address information to be verified and the residential range, whether the address information to be verified is false address information comprises:

determining coordinates of the address information to be verified based on a longitude and a latitude corresponding to the address information to be verified;

5 determining whether the coordinates of the address information to be verified fall within the residential range; and

in response to determining that the coordinates of the address information to be verified fall within the residential range, determining that the address information to be verified is not false address information; or

10 in response to determining that the coordinates of the address information to be verified do not fall within the residential range, determining that the address information to be verified is false address information.

7. The computer-implemented method of claim 1, wherein the address information to be
15 verified comprises living address information to be verified and working address information to be verified.

8. The computer-implemented method of claim 7, wherein determining, in the geographical
range obtained through pre-division, the residential range of the account based on the trained
20 classification model and geographical location information that is reported by the account of the predetermined time period comprises:

determining, in the geographical range obtained through pre-division, a resident living
range and a resident working range of the account based on the trained classification model and
the geographical location information that is reported by the account of the predetermined time
25 period.

9. The computer-implemented method of claim 8, wherein training the classification model
comprises:

determining several accounts with real known living address information and working
30 address information as training samples;

determining, based on several pieces of geographical location information reported by each

training sample, a quantity of times and a moment that the training sample appears in each grid;

determining a characteristic value corresponding to the training sample in each grid based on the quantity of times and the moment that the training sample appears in each grid; and

5 training the classification model based on the characteristic value corresponding to the training sample in each grid, real known living address information of the training sample, and real known working address information of the training sample, so that the classification model is used to determine the resident living range and the resident working range.

10 10. The computer-implemented method of claim 9, wherein the characteristic value corresponding to the training sample in any grid comprises at least one of the following:

a ratio of a quantity of times that the training sample appears in the grid to a total quantity of times that the training sample appears;

a ratio of a quantity of days on which the training sample appears in the grid to a total quantity of days on which the training sample appears;

15 a ratio of a quantity of workdays on which the training sample appears in the grid to the total quantity of days on which the training sample appears;

a ratio of a quantity of holidays on which the training sample appears in the grid to the total quantity of days on which the training sample appears;

20 a ratio of a quantity of workdays on which the training sample appears in the grid in the daytime to the total quantity of days on which the training sample appears;

a ratio of a quantity of workdays on which the training sample appears in the grid at night to the total quantity of days on which the training sample appears;

a ratio of a quantity of holidays on which the training sample appears in the grid in the daytime to the total quantity of days on which the training sample appears; and

25 a ratio of a quantity of holidays on which the training sample appears in the grid at night to the total quantity of days on which the training sample appears.

11. The computer-implemented method of claim 9, further comprising:

30 determining at least one of an appearance frequency of the account and an appearance time period of the account by using the characteristic value.

12. The computer-implemented method of claim 7, wherein determining, based on the result of matching between the address information to be verified and the residential range, whether the address information to be verified is false address information comprises:

in response to determining that the address information to be verified is the living address information to be verified,

determining coordinates of the living address information to be verified based on a longitude and a latitude corresponding to the living address information to be verified;

determining whether the coordinates of the living address information to be verified fall within the resident living range;

in response to determining that the coordinates of the living address information to be verified fall within the resident living range, determining that the address information to be verified is not false address information or in response to determining that the coordinates of the living address information to be verified do not fall within the resident living range, determining that the address information to be verified is false address information;

in response to determining that the address information to be verified is the working address information to be verified,

determining coordinates of the working address information to be verified based on a longitude and a latitude corresponding to the working address information to be verified;

determining whether the coordinates of the working address information to be verified fall within the resident working range; and

in response to determining that the coordinates of the working address information to be verified fall within the resident working range, determining that the address information to be verified is not false address information or in response to determining that the coordinates of the working address information to be verified do not fall within the resident working range, determining that the address information to be verified is false address information.

13. An apparatus for identifying false address information, the apparatus comprising a plurality of modules configured to perform the computer-implemented method of any one of claims 1 to 12.