

Claims

1. A method for identifying a risk pertaining to a transaction to be processed, comprising:

identifying a risk pertaining to a transaction to be processed via a fast identification layer in a risk control system, thereby obtaining a first identification result, wherein the model for identifying transactions susceptible to interference is generated by way of machine learning based on positive samples and negative samples, the positive samples including interfered transactions, the negative samples including un-interfered transactions that are subject to no risks, and wherein when the model for identifying transactions susceptible to interference is in an initial state, the positive samples are obtained by weighted sampling all transactions in a specified historical period, a weight of weighted sampling being negatively correlated to an interval between a sampling time and a time of a sampled transaction;

identifying a risk of interference pertaining to the transaction to be processed via a model for identifying transactions susceptible to interference, thereby obtaining a second identification result; and

determining a processing manner for the transaction to be processed based on the first identification result and the second identification result, the processing manner including releasing the transaction to be processed, or further identifying the risk pertaining to the transaction to be processed via an in-depth identification layer in the risk control system.

2. The method according to claim 1, wherein the weight of positive samples complies with the following formula:

$$w_i = e^{-\eta a_i}$$

where w_i is the weight of an i^{th} positive sample, η is a predefined adjustable parameter, and a_i is an interval of the i^{th} positive sample.

3. The method according to claim 1, wherein the negative samples are obtained by evenly sampling in all transactions within the specified historical period.

4. The method according to claim 1, wherein when the model for identifying transactions susceptible to interference is a newer version model obtained by updating an older version model, the positive samples comprise at least one of the following: interfered transactions not identified in the older version model, interfered transactions identified in the older version model.

5. The method according to claim 4, the negative samples are obtained by evenly sampling in all transactions within a period in which the positive samples are.

6. The method according to claim 1, wherein a version of the model for identifying transactions susceptible to interference is updated according to a preset period.

7. The method according to claim 1, wherein determining the processing manner of the transaction to be processed based on the first identification result and the second identification result comprises:

calculating a score of a decision function $f(R, D)$ according to the following formula:

$f(R,D) = R \cdot I(\beta > R > \alpha) \cdot e^{-D} + I(R \geq \beta)$, where R is a risk score included in the first identification result, D is an interference tendency score included in the second identification result, α and β are preset values and $0 < (\alpha, \beta) < 1$, a value of $I(x)$ is 1 when condition x is met and 0 when condition x is not met;

when $f(R, D) < \theta$, the processing manner is releasing the transaction to be processed, and when $\theta < f(R,D) \leq 1$, the in-depth identification layer in the risk control system further identifies the risk pertaining to the transaction to be processed; wherein θ is a preset threshold value, and $0 < \theta < 1$.

8. An apparatus for identifying a risk pertaining to a transaction to be processed, comprising:

a first identification unit which identifies a risk pertaining to a transaction to be processed via a fast identification layer in a risk control system, thereby obtaining a first identification result, wherein the model for identifying transactions susceptible to interference is generated by way of machine learning based on positive samples and negative samples, the positive samples including interfered transactions, the negative samples including un-interfered transactions that are subject to no risks, and wherein when the model for identifying transactions susceptible to interference is in an initial state, the positive samples are obtained by weighted sampling all transactions in a specified historical period, a weight of weighted sampling being negatively correlated to an interval between a sampling time and a time of a sampled transaction;

a second identification unit which identifies a risk of interference pertaining to the transaction to be processed via a model for identifying transactions susceptible to interference, thereby obtaining a second identification result; and

a determination unit which determines a processing manner for the transaction to

be processed based on the first identification result and the second identification result, the processing manner including releasing the transaction to be processed, or further identifying the risk pertaining to the transaction to be processed via an in-depth identification layer in the risk control system.

9. The apparatus according to claim 8, wherein the weight of positive samples complies with the following formula:

$$w_i = e^{-\eta a_i}$$

where w_i is the weight of an i^{th} positive sample, η is a predefined adjustable parameter, and a_i is an interval of the i^{th} positive sample.

10. The apparatus according to claim 8, wherein the negative samples are obtained by evenly sampling in all transactions within a specified historical period.

11. The apparatus according to claim 8, wherein when the model for identifying transactions susceptible to interference is a newer version model obtained by updating an older version model, the positive samples include at least one of the following: interfered transactions not identified in the older version model, interfered transactions identified in the older version model.

12. The apparatus according to claim 11, wherein the negative samples are obtained by evenly sampling in all transactions within a period in which the positive samples are.

13. The apparatus according to claim 8, wherein a version of the model for identifying transactions susceptible to interference is updated according to a preset period.

14. The apparatus according to claim 8, wherein the determination unit is used for: calculating a score of a decision function $f(R, D)$ according to the following formula: $f(R, D) = R \cdot I(\beta > R > \alpha) \cdot e^{-D} + I(R \geq \beta)$, where R is a risk score included in the first identification result, D is an interference tendency score included in the second identification result, α and β are preset values and $0 < (\alpha, \beta) < 1$, the value of $I(x)$ is 1 when condition x is met and 0 when condition x is not met;

when $f(R, D) < \theta$, the processing manner is releasing the transaction to be processed, and when $\theta < f(R, D) \leq 1$, the in-depth identification layer in the risk control system further identifies the risk pertaining to the transaction to be processed, wherein θ is a preset threshold value, and $0 < \theta < 1$.

15. An electronic device, comprising:

a processor;

a memory for storing instructions executable by the processor;

wherein the processor is configured to perform the method according to any of claims 1-7.