

CLAIMS

What is claimed is:

1. A fraud gang identification method, comprising:
 - constructing a relational network that includes a plurality of nodes;
 - performing cluster discovery based on the relational network to obtain at least one fraud gang included in the relational network, each fraud gang including nodes of the plurality of nodes;
 - determining a weak node from the nodes included in the fraud gang, the weak node being a node whose association with the fraud gang meets a weak association criterion; and
 - removing the weak node from the fraud gang to identify a final target fraud gang.
2. The method according to claim 1, wherein the determining the weak node from the nodes included in the fraud gang comprises:
 - if the number of link edges between a node and other nodes in the fraud gang is less than an edge number threshold, determining that the node is a weak node meeting a weak association criterion.
3. The method according to claim 1, wherein the determining a weak node from the nodes included in the fraud gang comprises:
 - if an edge weight of a link edge between a node and another node in the fraud gang is lower than a weight threshold, determining that the node is a weak node meeting a weak association criterion.
4. The method according to claim 1, wherein the removing the weak node from the fraud gang comprises:
 - removing a gang link edge between different gangs from at least one fraud gang;
 - and
 - removing some or all weak nodes from each fraud gang.
5. The method of claim 1, further comprising:
 - after the removing the weak node from the fraud gang and before the identifying the final target fraud gang, performing cluster discovery on the fraud gang if the fraud

gang meets a gang subdivision criterion after the weak node has been removed from the fraud gang.

6. The method according to claim 5, wherein the gang subdivision criterion comprises:

a number of nodes included in the fraud gang is greater than a node number threshold; or

a fraud case concentration value of the fraud gang is lower than a case concentration threshold.

7. The method of claim 1, wherein the constructing the relational network including determining a link edge between a first node and a second node of the plurality of nodes.

8. The method of claim 7, wherein the link edge is a shared medium between the first node and the second node.

9. The method of claim 8, wherein the shared medium is one or more of a device, a fingerprint, a certificate number, an account number, a Wi-Fi location, or a location-based service account.

10. The method of claim 3, wherein the edge weight is an average value of weights of all link edges between the node and other nodes of the fraud gang.

11. The method of claim 3, wherein the edge weight is a sum of weights of all link edges between the node and other nodes of the fraud gang.

12. The method of claim 3, wherein the edge weight is determined based on one or more of a number of shared media between the node and the other node or a number of transfer transactions between the node and the other node.

13. A device, comprising:

a network construction module, configured to construct a relational network that includes a plurality of nodes linked to one another through a plurality of link edges;

a cluster processing module, configured to perform cluster discovery based on

the relational network to obtain at least one internet-based group included in the relational network, each internet-based group including nodes of the plurality of nodes;

a node determining module, configured to determine a weak node from the nodes included in the internet-based group, the weak node being a node whose association with other nodes of the internet-based group meets a weak association criterion; and

a pruning processing module, configured to remove the weak node from the internet-based group.

14. The device according to claim 13, wherein the node determining module is configured to:

if a number of link edges between a node and other nodes in the internet-based group is less than an edge number threshold, determine that the node is a weak node;
or

if an edge weight of a link edge between a node and another node in the internet-based group is lower than a weight threshold, determine that the node is a weak node.

15. The device of claim 14, wherein the edge weight is determined based on one or more of a number of shared media between the node and the other node or a number of transfer transactions between the node and the other node.

16. The device of claim 14, wherein the edge weight is determined based on weights of all link edges between the node and the other nodes of the internet-based group.

17. The device according to claim 13, further comprising:

a subdivision module, configured to continue to perform cluster discovery on the internet-based group if the internet-based group meets a subdivision criterion after the pruning processing module has removed the weak node from the internet-based group.

18. The device of claim 13, wherein a link edge of the plurality of link edges is a shared medium between a first node and a second node of the plurality of nodes.

19. A system, comprising:

a memory;

a processor; and

computer instructions stored in the memory, which, when executed by the processor, configures the processor to implement acts including:

constructing a relational network that includes a plurality of nodes linked to one another through a plurality of link edges;

performing cluster discovery based on the relational network to obtain a cluster of nodes of the plurality of nodes included in the relational network;

determining a rating value of a node in the cluster of nodes based on a link edge between the node and another node in the cluster of nodes; and

removing a node from the cluster of node, which has a rating value that meets a threshold for removing a node.

20. The system according to claim 19, wherein the determining the rating value of the node in the cluster of nodes includes determining one or more of:

a number of link edges between the node and other nodes in the cluster of nodes;
and

an edge weight of all link edge between the node and other nodes in the cluster of nodes.