What is claimed is:

1. An object feature information acquisition method executable by a computer, the method comprising:

in a first training process, training one or more parameters of a sequential neural network;

obtaining a number (N) of relation networks of a first node respectively at N time instances, wherein the N time instances have a temporal order, each of the relation networks corresponds to a time instance of the N time instances and comprises a plurality of nodes and connection relationships between the nodes, and each of the relation networks comprises the first node representing a first user;

determining (i) a spatial aggregation feature of the first node at a first time instance and (ii) a node feature of the first node, wherein the node feature of the first node comprises an attribute feature, a historical activity feature, an association relationship feature, an interaction feature, or a physical indicator feature;

inputting, in accordance with the temporal order, N spatial aggregation features of the N time instances into the sequential neural network, wherein the sequential neural network is configured to determine, according to the one or more trained parameters and the N spatial aggregation features, N spatio-temporal expressions of the first node at the N time instances;

determining, based on an output result of the sequential neural network, the N spatio-temporal expressions of the first node at the N time instances;

aggregating the N spatio-temporal expressions to obtain a spatio-temporal aggregation feature of the first node as feature information of the first user;

obtaining a predicted result of the first node by at least inputting the feature information into a machine learning model;

determining a prediction loss value of the machine learning model based on a difference between the predicted result and a label; and

in a second training process, updating at least one of the one or more parameters based on reducing the prediction loss value of the machine learning model.

2. The method of claim 1, wherein determining the spatial aggregation feature of the first node at the first time instance comprises:

determining, in a relation network at the first time instance, a plurality of neighbor nodes of the first node at the first time instance as a first neighbor node group; and

inputting a node feature of each of the neighbor nodes in the first neighbor node group and the node feature of the first node into a graph neural network to obtain the spatial aggregation feature of the first node at the first time instance.

3. The method of claim 1, wherein determining the spatial aggregation feature of the first node at the first time instance comprises:

determining, in a relation network at the first time instance, a plurality of neighbor nodes of the first node at the first time instance as a first neighbor node group;

determining, through an attention mechanism-based adaptive breadth function and based on a node feature of each of the neighbor nodes in the first neighbor node group and the node feature of the first node, an importance level of each of the neighbor nodes relative to the first node;

performing, based on the importance level of each of the neighbor nodes, weighted summation on the node feature of each of the neighbor nodes to obtain a breadth feature of the first node; and

performing, through a loop operator-based adaptive depth function, t-step iterations on the first node based on the breadth feature to obtain the spatial aggregation feature of the first node at the first time instance.

4. The method of claim 1, wherein determining the N spatio-temporal expressions of the first node at the N time instances comprises:

determining, through the sequential neural network, N temporal aggregation features of the first node at the N time instances; and

combining the spatial aggregation features with the temporal aggregation features of the N time instances to obtain the spatio-temporal expressions of the first node.

5. The method of claim 4, wherein combining the spatial aggregation features with the temporal aggregation features of the N time instances comprises:

concatenating the spatial aggregation feature of the first time instance and a corresponding temporal aggregation feature of the first time instance to obtain a concatenation feature as a spatio-temporal expression of the first time instance.

6. The method of claim 1, wherein aggregating the N spatio-temporal expressions comprises:

constructing a spatio-temporal expression matrix from the N spatio-temporal expressions;

determining an attention matrix based on a self-attention mechanism and the N spatio-temporal expressions;

obtaining a second transformation matrix based on a product of the attention matrix and a first transformation matrix, the first transformation matrix being a product of the spatio-temporal expression matrix and a pre-trained first parameter matrix; and

determining, based on concatenation of each vector in the second transformation matrix, the spatio-temporal aggregation feature of the first node.

7. The method of claim 1, further comprising:

determining feature information of a second user;

determining a similarity level between the feature information of the first user and the feature information of the second user; and

in response to the similarity level being greater than a threshold, sending information of interest of the second user to the first user, wherein the information of interest comprises one or more of product information, shop information, and work products.

8. The method of claim 2, wherein the graph neural network comprises a graph convolutional neural network (GCN), a graph attention neural network (GAN), a GraphSage network, or a Geniepath network.

9. The method of claim 1, wherein the sequential neural network comprises a long short-term memory (LSTM) or a recurrent neural network (RNN).

10. The method of claim 1, further comprising:

determining a feature information of a second object represented by a second node;

concatenating the feature information of the first user and the feature information of the second object to obtain a concatenation feature; and

inputting the concatenation feature into a pre-trained connection relationship classifier to obtain a classification result of whether a connection relationship exists between the first user and the second object.

11. The method of claim 4, wherein a temporal aggregation feature of a time instance is obtained based on aggregating spatial aggregation features of one or more time instances before the time instance.

12. A spatio-temporal aggregation-based object classification method executable by a computer, the method comprising:

acquiring feature information of a second object, wherein the feature information of the second object is obtained through the method of claim 1; and

inputting the feature information of the second object into a pre-trained object classifier to obtain a classification result of the second object.

13. A spatio-temporal aggregation-based information pushing method executable by a computer, the method comprising:

acquiring feature information of a third object and feature information of a fourth object, the feature information of the third object and the feature information of the fourth object being separately obtained through the method of claim 1; and

pushing, if a similarity level between the feature information of the third object and the feature information of the fourth object is greater than a preset similarity threshold, information to the fourth object based on information of interest for the third object.

14. A spatio-temporal aggregation-based connection relationship prediction method executable by a computer, the method comprising:

acquiring feature information of a fifth object and feature information of a sixth object, the feature information of the fifth object and the feature information of the sixth object being separately obtained through the method of claim 1;

concatenating the feature information of the fifth object and the feature information of the sixth object to obtain a concatenation feature; and

inputting the concatenation feature into a pre-trained connection relationship classifier to obtain a classification result of whether a connection relationship exists between the fifth object and the sixth object.

15. A spatio-temporal aggregation-based object feature information acquisition device implemented in a computer, the device comprising:

a network acquisition module, configured to train one or more parameters of a sequential neural network in a first training process, and further configured to obtain a number (N) of relation networks of a first node respectively at N time instances, wherein the N time instances have a temporal order, each of the relation networks corresponds to a time instance of the N time instances and comprises a plurality of nodes and connection relationships between the nodes, and each of the relation networks comprises the first node representing a first user;

a spatial aggregation module, configured to determine (i) a spatial aggregation feature of the first node at a first time instance and (ii) a node feature of the first node, wherein the node feature of the first node comprises an attribute feature, a historical activity feature, an association relationship feature, an interaction feature, or a physical indicator feature;

a spatio-temporal expression module, configured to input, in accordance with the temporal order, N spatial aggregation features of the N time instances into the sequential neural network, wherein the sequential neural network is configured to determine, according to the one or more trained parameters and the N spatial aggregation features, N spatio-temporal expressions of the first node at the N time instances and determine, based on an output result of the sequential neural network, the N spatio-temporal expressions of the first node at the N time instances, and further configured to obtain a predicted result of the first node by at least inputting the feature information into a machine learning model; and

a spatio-temporal aggregation module, configured to:

aggregate the N spatio-temporal expressions to obtain a spatio-temporal aggregation feature of the first node as feature information of the first user;

determine a prediction loss value of the machine learning model based on a difference between the predicted result and a label; and

update at least one of the one or more parameters based on reducing the prediction loss value of the machine learning model in a second training process.

16. A spatio-temporal aggregation-based object classification device implemented in a computer, the device comprising:

a first acquisition module, configured to acquire feature information of a second object obtained, wherein the feature information of the second object is obtained through the method of claim 1; and

an object classification module, configured to input the feature information of the second object into a pre-trained object classifier to obtain a classification result of the second

object.

17. A spatio-temporal aggregation-based information pushing device implemented in a computer, the device comprising:

a second acquisition module, configured to acquire feature information of a third object and feature information of a fourth object, the feature information of the third object and the feature information of the fourth object being separately obtained through the method of claim 1; and

an information pushing module, configured to push, if a similarity level between the feature information of the third object and the feature information of the fourth object is greater than a preset similarity threshold, information to the fourth object based on information of interest for the third object.

18. A spatio-temporal aggregation-based connection relationship prediction device implemented in a computer, the device comprising:

a third acquisition module, configured to acquire feature information of a third object and feature information of a fourth object, the feature information of the third object and the feature information of the fourth object being separately obtained through the method of claim 1; and

a feature concatenation module, configured to concatenate the feature information of a fifth object and the feature information of a sixth object to obtain a concatenation feature; and

a relationship classification module, configured to input the concatenation feature into a pre-trained connection relationship classifier to obtain a classification result of whether a connection relationship exists between the fifth object and the sixth object.

19. A computer-readable storage medium having a computer program stored thereon, wherein when the computer program is executed in a computer, the computer is caused to execute the method of any one of claims 1-14.

20. Computing equipment, comprising a memory and a processor, wherein executable code is stored in the memory; and when executing the executable code, the processor implements the method of any one of claims 1-14.