CLAIMS

1. An item recommendation method, wherein the method comprises:

obtaining historical interaction data of a target object, wherein the historical interaction data indicates a historical interaction event between the target object and at least one item;

obtaining a pre-trained target recommendation model, wherein the target recommendation model comprises a graph neural network model with one convolutional layer, and the convolutional layer indicates an association relationship between a sample object and a sample item; and

invoking, based on the historical interaction data, the target recommendation model to output a target item corresponding to the target object.

2. The method according to claim 1, wherein the target recommendation model indicates associated item information corresponding to each of n sample objects and associated object information corresponding to each of m sample items, the associated item information indicates at least one item that has interacted with the sample object, the associated object information indicates at least one object that has interacted with the sample item, and n and m are positive integers.

3. The method according to claim 1 or 2, wherein the target recommendation model further indicates an association relationship between at least two sample items and/or an association relationship between at least two sample objects.

4. The method according to any one of claims 1 to 3, wherein the invoking, based on the historical interaction data, the target recommendation model to output a target item corresponding to the target object comprises:

inputting the historical interaction data to the target recommendation model, to output the target item corresponding to the target object, wherein

the target recommendation model is obtained through training based on at least one sample data group, each sample data group comprises sample interaction data and pre-labeled correct recommendation information, and the sample interaction data indicates a sample object and a corresponding sample item.

5. The method according to claim 3, before the obtaining a pre-trained target recommendation model, further comprising:

obtaining a training sample set, wherein the training sample set comprises the at least one sample data group;

for each of the at least one sample data group, inputting the sample interaction data to an initial parameter model to obtain a training result;

obtaining a training loss value through calculation based on the training result and the correct recommendation information by using a preset loss function, wherein the training loss value indicates an error between the training result and the correct recommendation information;

adjusting a model parameter in the initial parameter model based on the training loss value corresponding to each of the at least one sample data group; and

when a preset convergence condition is met, obtaining the target recommendation model through training.

6. The method according to claim 5, wherein the at least one sample data group comprises at least one positive sample data group and at least one negative sample data group that is randomly sampled, there is an interaction event between the sample object and the sample item in the positive sample data group, and there is no interaction event between the sample object and the sample item in the negative sample data group.

7. The method according to claim 5 or 6, wherein the preset loss function comprises a first loss function and a second loss function, the first loss function is a loss function that is set based on an association relationship between the sample object and the sample item, and the second loss function is a loss function of a preset type.

8. The method according to claim 7, wherein the preset loss function further comprises a third loss function, and the third loss function is a loss function that is set based on an association relationship between at least two sample items.

9. The method according to claim 7 or 8, wherein the preset loss function further comprises a fourth loss function, and the fourth loss function is a loss function that is set based on an association relationship between at least two sample objects.

10. The method according to any one of claims 1 to 9, wherein the item comprises at least one of text, a link, a product, a service, and concept information.

11. An item recommendation apparatus, wherein the apparatus comprises:

a first obtaining unit, configured to obtain historical interaction data of a target object, wherein the historical interaction data indicates a historical interaction event between the target object and at least one item;

a second obtaining unit, configured to obtain a pre-trained target recommendation model, wherein the target recommendation model comprises a graph neural network model with one convolutional layer, and the convolutional layer indicates an association relationship between a sample object and a sample item; and

an invoking unit, configured to invoke, based on the historical interaction data, the target recommendation model to output a target item corresponding to the target object.

12. The apparatus according to claim 11, wherein the target recommendation model indicates associated item information corresponding to each of n sample objects and associated object information corresponding to each of m sample items, the associated item information indicates at least one item that has interacted with the sample object, the associated object information indicates at least one object that has interacted with the sample item, and n and m are positive integers.

13. The apparatus according to claim 11 or 12, wherein the target recommendation model further indicates an association relationship between at least two sample items and/or an association relationship between at least two sample objects.

14. A nonvolatile computer-readable storage medium, wherein the nonvolatile computer-readable storage medium stores computer program instructions, and when the computer program instructions are executed by a processor, the method according to any one of claims 1 to 10 is implemented.

15. A computer program product, wherein the computer program product comprises computer-readable instructions, and when the computer-readable instructions are run on a computer device, the computer device is enabled to perform the method according to any one of claims 1 to 10.