

FEDERATED LEARNING METHOD AND APPARATUS BASED ON GRAPH NEURAL NETWORK, AND FEDERATED LEARNING SYSTEM

ABSTRACT

5 Implementations of the present specification provide a federated learning method
and apparatus based on a graph neural network, and a federated learning system. In the
federated learning method, each first member device performs mining of graph nodes
and mining of a relationship among graph nodes on local spatial-temporal data to
generate graph-structured data; trains a local graph neural network model by using the
10 graph-structured data, to obtain update amount information; and sends the update
amount information to a second member device; and the second member device
receives the update amount information sent by each first member device; obtains
combined update amount information based on the received update amount information;
and separately sends corresponding model update information to each first member
15 device based on the combined update amount information for each first member device
to update the local graph neural network model based on the corresponding model
update information.

20 FIG. 2