

FEDERATED TRAINING METHOD AND APPARATUS, AND COMPUTER SYSTEM

ABSTRACT

Embodiments of this specification provide a federated training method and apparatus, and a
5 computer system. Any round of iterative training involved in the method includes: Each of a
plurality of participants calculates a first gradient corresponding to a current first parameter of a
local model based on a batch of local training data corresponding to the current round; calculates,
based on the first gradient and a current local approximation matrix, a target vector indicating a
parameter updating direction, where the local approximation matrix is used to approximate an
10 inverse matrix of a Hessian matrix corresponding to the first parameter; and updates the first
parameter to a second parameter based on the target vector and a step, and calculates a second
gradient corresponding to the second parameter. Then, an intermediate party determines a target
parameter and a target matrix that correspond to each participant after updating a global model
parameter and a global approximation matrix based on second parameters and second gradients
15 that are respectively provided by the plurality of participants, to provide the target parameter and
the target matrix for the corresponding participant to update a local model parameter and the local
approximation matrix.

20 FIG. 2