CLAIMS

1. A method for data sharing between a data miner and data providers, each of the data providers comprising one or more processors to execute the method, the method comprising:

downloading, by a first data provider *u* and from the data miner, a first set of public parameters, wherein the first set of public parameters are data miner parameters associated with a first feature set of training sample data, wherein the training sample data has a plurality of features, and the first feature set is a first subset of the plurality of features allocated by the data miner to the first data provider to be downloaded in parallel with a second subset of the plurality of features allocated by the data miner to a second data provider to satisfy a convergence condition that accelerates training, wherein the first subset of the plurality of features intersects the second subset of the plurality of features;

replacing, by the first data provider, a set of private parameters of the first data provider W^u with the first set of public parameters, wherein the set of private parameters are data provider parameters associated with the first feature set of training sample data;

updating, by the first data provider the set of private parameters W^u to provide a set of update results, the set of private parameters being updated based on a model parameter update algorithm associated with the first data provider;

sorting, by the first data provider, the set of update results comprising a predetermined number of parameters of the set of update results with changes that are greater than a predetermined value to generate a sorted set of update results; and

uploading, by the first data provider, the sorted set of update results to the data miner.

2. The method according to claim 1, wherein the data miner and at least one of the data providers separately maintain model parameters for a feature set of training sample data.

3. The method according to any one of claims 1 to 2, wherein the data miner maintains a public parameter set W^{global}, and each data provider *u* maintains the sorted set of update results.

4. The method according to any one of claims 1 to 3, wherein downloading the first set of public parameters comprises: downloading, by the first data provider *u*, a public parameter subset $W^{global \rightarrow u}$ from the data miner, wherein a number $N_{download}^{u}$ of parameters in $W^{global \rightarrow u}$ is less than a number N of parameters in W^{global}.

5. The method according to claim 4, wherein downloading the first set of public parameters from the data miner comprises: downloading, by different data providers from the data miner, public parameter subsets for different features of the first feature set of training sample data.

6. The method according to claim 4, wherein downloading the first set of public parameters from the data miner comprises: downloading a plurality of subsets, each of the plurality of subsets corresponding to a different feature of the first feature set of training sample data.

7. The method according to any one of claims 1 to 6, wherein uploading the sorted set of update results to the data miner comprises:

uploading an updated parameter value to the data miner; or

uploading, to the data miner, a parameter change value generated during updating.

8. The method according to any one of claims 1 to 6, wherein uploading the sorted set of update results to the data miner comprises:

determining, by the first data provider *u*, a private parameter subset $W^{u \rightarrow global}$, and

uploading, to the data miner, a parameter update result that corresponds to $W^{u \rightarrow global}$, wherein a number N_{upload}^{u} of parameters in $W^{u \rightarrow global}$ is less than a number N of parameters in W^{u}.

9. The method according to claim 8, wherein determining the private parameter subset $W^{u \rightarrow global}$ comprises:

sorting change values that are of parameters in W^{u} and that are generated during updating, and selecting one or more parameters that correspond to one or more larger change values, to form $W^{u \rightarrow global}$.

10. The method according to claim 1, wherein uploading the sorted set of update results to the data miner comprises:

uploading, to the data miner, a result that is obtained after the update result is truncated based on a predetermined value range; or

uploading, to the data miner, a result that is obtained after noise addition processing is performed on the update result.

11. An apparatus for training a model, the apparatus comprising a plurality of modules configured to perform the method according to any one of claims 1 to 10.

12. A computer device, comprising a memory, a processor, and a computer program that is stored in the memory and that can run on the processor, wherein when executing the program, the processor performs the method according to any one of claims 1 to 10.