Claims

1. A method for constructing a parameter setting model, wherein the method comprises:

constructing an auxiliary training dataset and a validation dataset according to loop information of a newly built apparatus and running data of an auxiliary apparatus, wherein the newly built apparatus is an apparatus applied to a parameter setting model to be trained, and the auxiliary apparatus is an apparatus that has completed parameter setting and is run formally;

constructing a local training dataset according to initial running data of the newly built apparatus; and

performing training according to the auxiliary training dataset, the validation dataset, and the local training dataset to obtain a parameter setting model;

wherein performing training according to the auxiliary training dataset, the validation dataset, and the local training dataset to obtain the parameter setting model comprises:

performing training according to the auxiliary training dataset and the local training dataset to obtain an intermediate setting model;

validating the intermediate setting model on the basis of the validation dataset, and running, after validation succeeds, the intermediate setting model according to a preset input parameter value to obtain an output parameter value of the intermediate setting model;

obtaining a loop PID parameter value after the newly built apparatus is run according to the preset input parameter value; and

performing parameter optimization on the intermediate setting model according to the loop PID parameter value and the output parameter value to obtain the parameter setting model.

2. The method for constructing the parameter setting model as claimed in claim 1, wherein constructing the auxiliary training dataset and the validation dataset according to loop information of the newly built apparatus and running data of the auxiliary apparatus comprises:

obtaining a target dataset by screening the running data of the auxiliary apparatus according to a loop type of the newly built apparatus and a physical characteristic corresponding to a control loop; and

splitting the target dataset to obtain the auxiliary training dataset and the validation dataset.

3. The method for constructing the parameter setting model as claimed in claim 2, wherein obtaining the target dataset by screening the running data of the auxiliary apparatus according to the loop type

of the newly built apparatus and the physical characteristic corresponding to the control loop comprises:

obtaining a plurality of selectable running data matched with the loop type by screening the running data of the auxiliary apparatus according to the loop type of the newly built apparatus; and

obtaining the target dataset by screening the plurality of selectable running data according to the physical characteristic corresponding to the control loop of the newly built apparatus.

4. The method for constructing the parameter setting model as claimed in claim 1, wherein performing parameter optimization on the intermediate setting model according to the loop PID parameter value and the output parameter value to obtain the parameter setting model comprises:

determining a parameter error rate according to the loop PID parameter value and the output parameter value; and

performing iterative correction on model parameters of the intermediate setting model according to the parameter error rate to obtain the parameter setting model.

5. The method for constructing the parameter setting model as claimed in claim 4, wherein the model parameters comprise a first intermediate weight vector and an intermediate offset parameter value;

performing iterative correction on model parameters of the intermediate setting model according to the parameter error rate to obtain the parameter setting model comprises:

correcting the intermediate offset parameter value according to the parameter error rate to obtain a process offset parameter value;

correcting the first intermediate weight vector according to the process offset parameter value to obtain a first process weight vector;

obtaining a new intermediate setting model according to the process offset parameter value and the first process weight vector, and redetermining a parameter error rate of the intermediate setting model; and

repeating above process until the parameter error rate is less than a preset threshold, and using the intermediate setting model as the parameter setting model.

6. The method for constructing the parameter setting model as claimed in claim 1, wherein before performing training according to the auxiliary training dataset and the local training dataset to obtain an intermediate setting model, the method comprises:

determining a root-mean-square error and a determination coefficient according to the auxiliary training dataset and the local training dataset;

determining a quantity of hidden layer nodes of an initial parameter setting model according to the root-mean-square error and the determination coefficient;

constructing the initial parameter setting model according to the quantity of hidden layer nodes, a preset quantity of input layer nodes, and a preset quantity of output layer nodes; and

training the initial parameter setting model according to the auxiliary training dataset and the local training dataset to obtain the intermediate setting model.

7. A method for industrial process control, wherein the method comprises:

determining a set parameter value of a newly built apparatus to be controlled according to a parameter setting model, wherein the parameter setting model is obtained on the basis of the method for constructing the parameter setting model as claimed in claim 1; and

controlling the newly built apparatus according to the set parameter value to execute a target process.

8. The method for industrial process control as claimed in claim 7, wherein constructing the auxiliary training dataset and the validation dataset according to loop information of the newly built apparatus and running data of the auxiliary apparatus comprises:

obtaining a target dataset by screening the running data of the auxiliary apparatus according to a loop type of the newly built apparatus and a physical characteristic corresponding to a control loop; and

splitting the target dataset to obtain the auxiliary training dataset and the validation dataset.

9. A processing device, wherein the processing device comprises a processor, a storage medium, and a bus, wherein the storage medium stores machine-readable instructions executable by the processor; when the processing device is run, the processor communicates with the storage medium through the bus; and the processor executes the machine-readable instructions to execute the steps of the method for constructing the parameter setting model as claimed in claim 1.