CLAIMS

1. A network entity for wireless communication supporting network data analytics, the network entity comprising instructions executable by at least one processor to cause the network entity to:

obtain a request message to train a model for supporting a network analytics operation identified by an analytics identifier;

select a set of one or more model training functions to perform a federated learning training process for the model;

select a weighting factor for each function of the selected set of one or more model training functions; and

control the federated learning training process for the model and the one or more selected functions, based on the selected weighting factor for each function of the selected set of one or more model training functions.

2. The network entity of claim 1, wherein the instructions are further executable by the at least one processor to cause the network entity to:

in response to the federated learning training process being completed, output a response message, the response message comprising at least:

an identifier of each function of the selected set of one or more model training functions;

weighting factor for each function of the selected set of one or more model training functions; and

an identifier of the federated learning training process for the model.

3. The network entity of claim 2, wherein the instructions are further executable by the at least one processor to cause the network entity to:

determine completion of the federated learning training process based on a stability of the model.

4. The network entity of any preceding claim, wherein the instructions are further executable by the at least one processor to cause the network entity to: receive the request message from a consumer entity.

5. The network entity of claim 4, wherein the consumer entity is a consumer analytics logical function.

6. The network entity of any preceding claim, wherein, to control the federated learning training process, the instructions are executable by the at least one processor to cause the network entity to:

receive intermediate values for the model from each of the one or more model training functions;

compute at least one of one or more gradients and one or more losses based on the intermediate values; and

output one or more of gradient or loss messages comprising the at least one of the one or more gradients and the one or more losses to the one or more model training functions.

7. The network entity of any preceding claim, wherein the request message comprises at least one analytics identifier identifying the network analytics operation.

8. The network entity of any preceding claim, wherein the federated learning model is a vertical federated learning model.

9. The network entity of any preceding claim, wherein the network entity comprises at least one of a model training function or an application function.

10. A method, performed by a network entity of a wireless communication network, the method comprising:

obtaining a request message to train a model for supporting a network analytics operation identified by an analytics identifier;

selecting a set of one or more model training functions to perform a federated learning training process for the model;

selecting a weighting factor for each function of the selected set of one or more model training functions; and

controlling the federated learning training process for the model and the one or more selected functions, based on the selected weighting factor for each function of the selected set of one or more model training functions.

11. The method of claim 10, further comprising:

in response to the federated learning training process being completed, outputting a response message, the response message comprising at least:

an identifier of each function of the selected set of one or more model training functions;

the weighting factor for each function of the selected set of one or more model training functions; and

an identifier of the federated learning training process for the model.

12. The method of claim 11, further comprising:

determining completion of the federated learning training process based on a stability of the model.

13. The method of any of claims 10 to 12, further comprising:

receiving the request message from a consumer entity,

wherein the consumer entity is a consumer analytics logical function.

14. The method of any of claims 10 to 13, wherein controlling the federated learning training process comprises:

receiving intermediate values for the model from each of the one or more model training functions;

computing at least one of one or more gradients and one or more losses based on the intermediate values; and

outputting one or more of gradient or loss messages comprising the at least one of the one or more gradients and the one or more losses to the one or more model training functions.

15. The method of any of claims 10 to 14, wherein the request message comprises at least one analytics identifier identifying the network analytics operation.