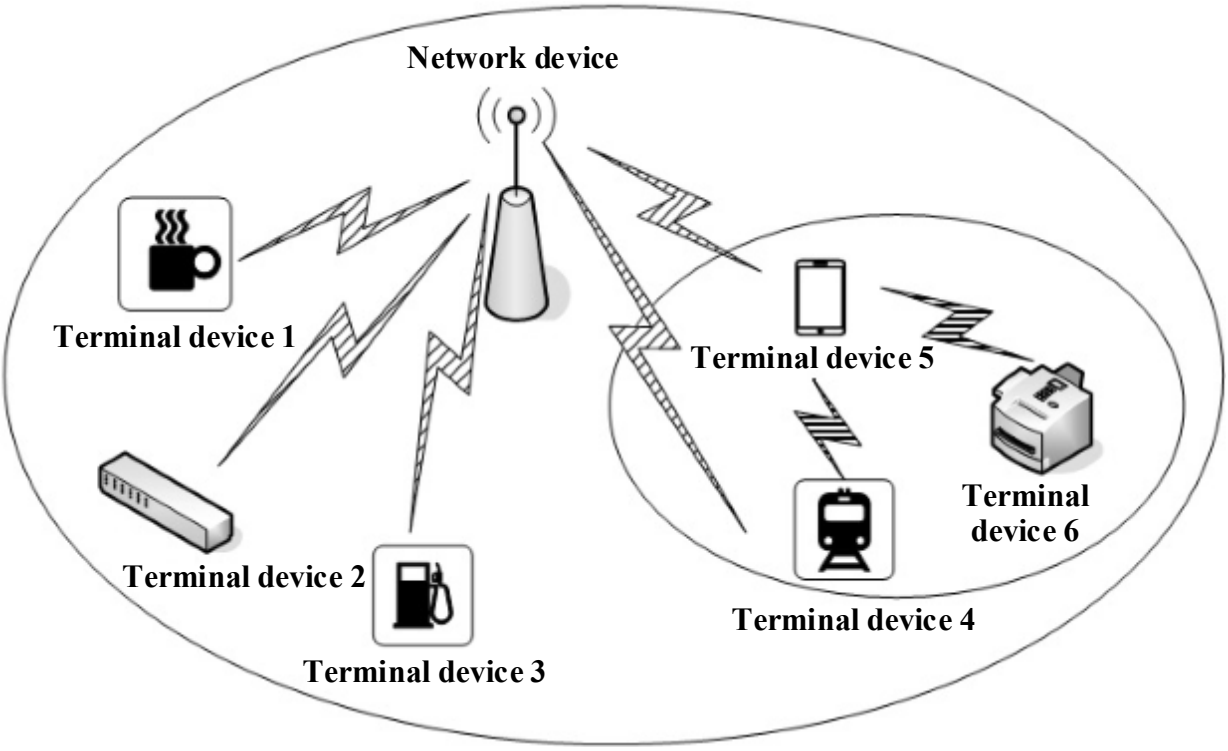

Network device
Terminal device 1
Terminal device 2
Terminal device 3
Terminal device 4
Terminal device 5
Terminal device 6

FIG. 1a

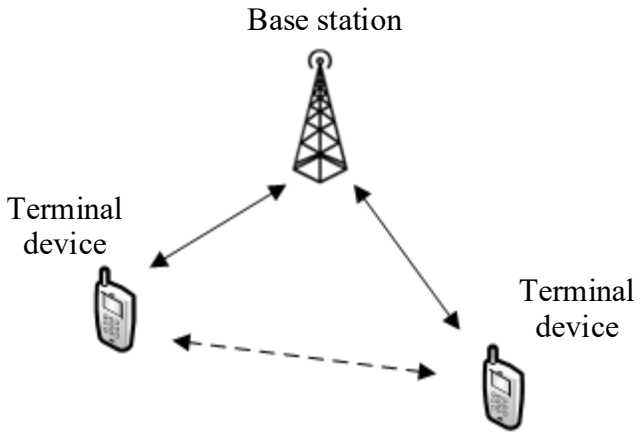

Base station
Terminal device
Terminal device

FIG. 1b

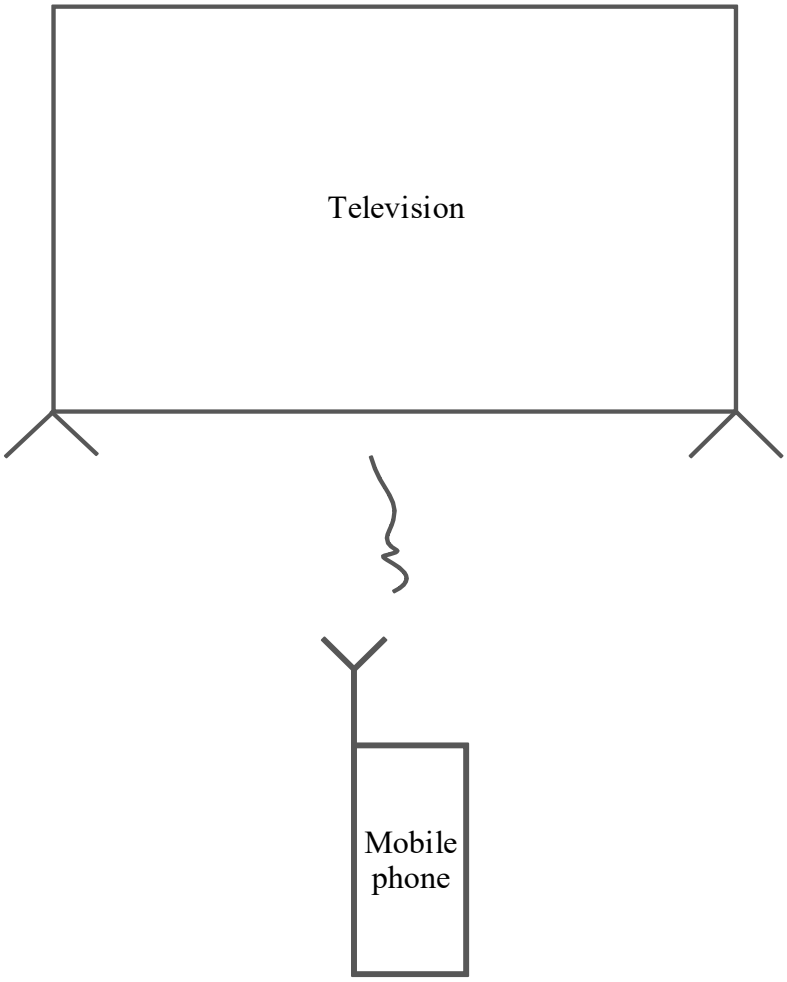

Television
Mobile phone

FIG. 1c

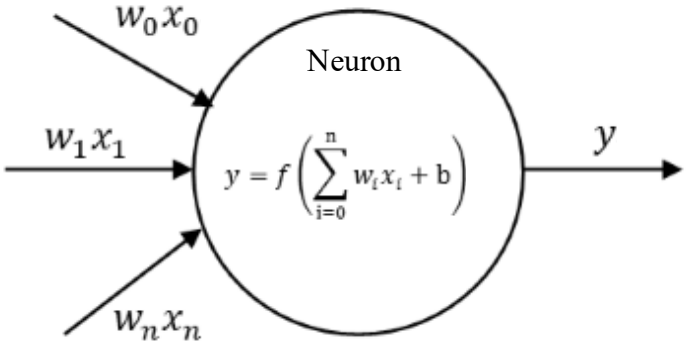

w_0x_0
Neuron
w_1x_1
$y = f\left(\sum_{i=0}^{n} w_i x_i + b\right)$
y
w_nx_n

FIG. 2a

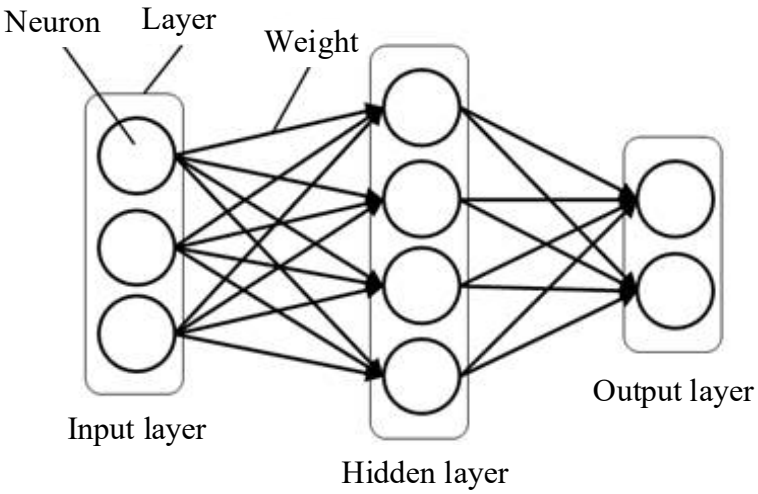

Neuron
Layer
Weight
Input layer
Hidden layer
Output layer

FIG. 2b

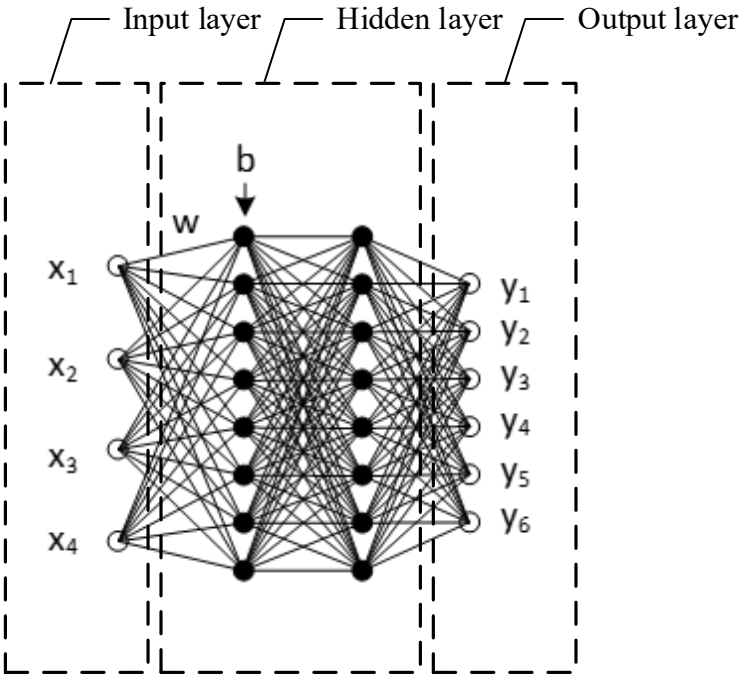

Input layer
Hidden layer
Output layer
b
w
x1
x2
x3
x4
y1
y2
y3
y4
y5
y6

FIG. 2c

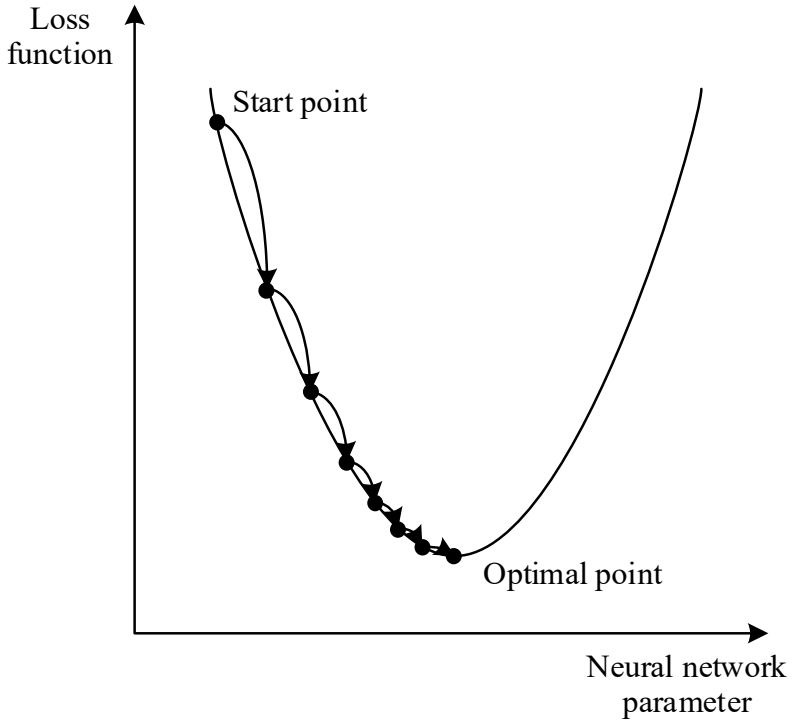

Loss function
Start point
Optimal point
Neural network parameter

FIG. 2d

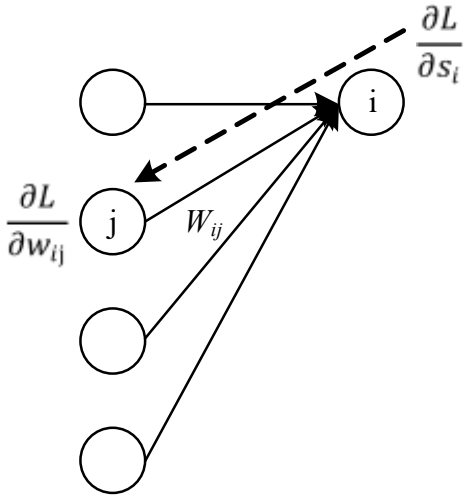

$\frac{\partial L}{\partial s_i}$
i
$\frac{\partial L}{\partial w_{ij}}$
j
W_{ij}

FIG. 2e

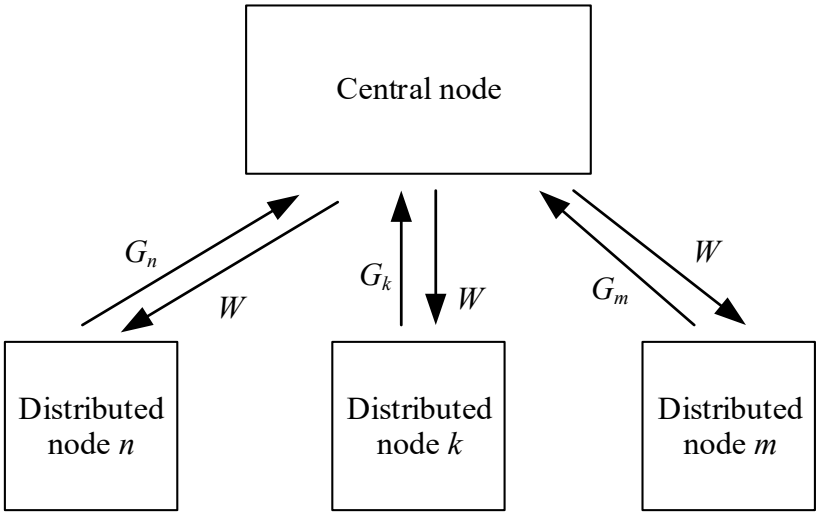

Central node
G_n
W
G_k
W
W
G_m
Distributed node n
Distributed node k
Distributed node m

FIG. 2f

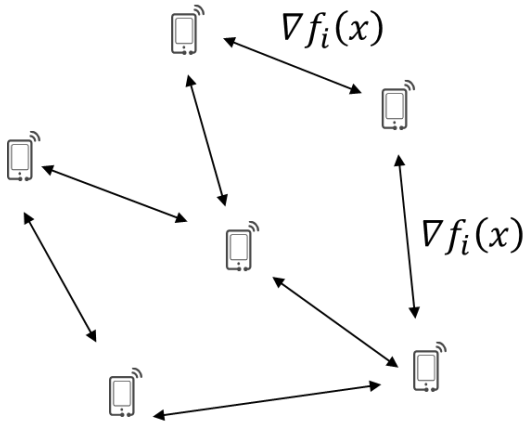

$\nabla f_i(x)$
$\nabla f_i(x)$

FIG. 2g

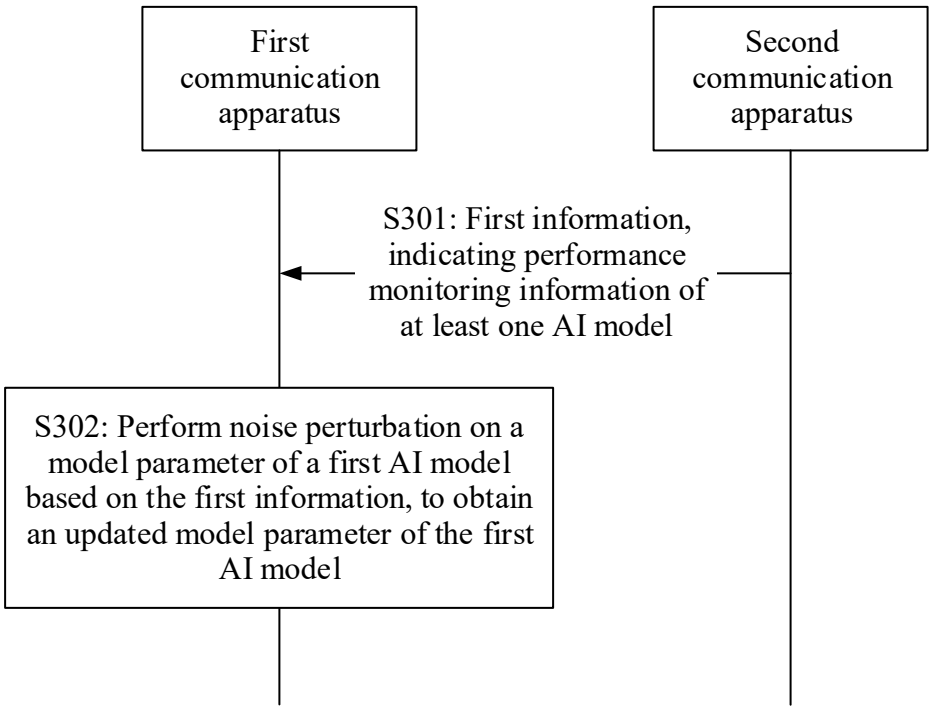

First communication apparatus
Second communication apparatus
S301: First information, indicating performance monitoring information of at least one AI model
S302: Perform noise perturbation on a model parameter of a first AI model based on the first information, to obtain an updated model parameter of the first AI model

FIG. 3

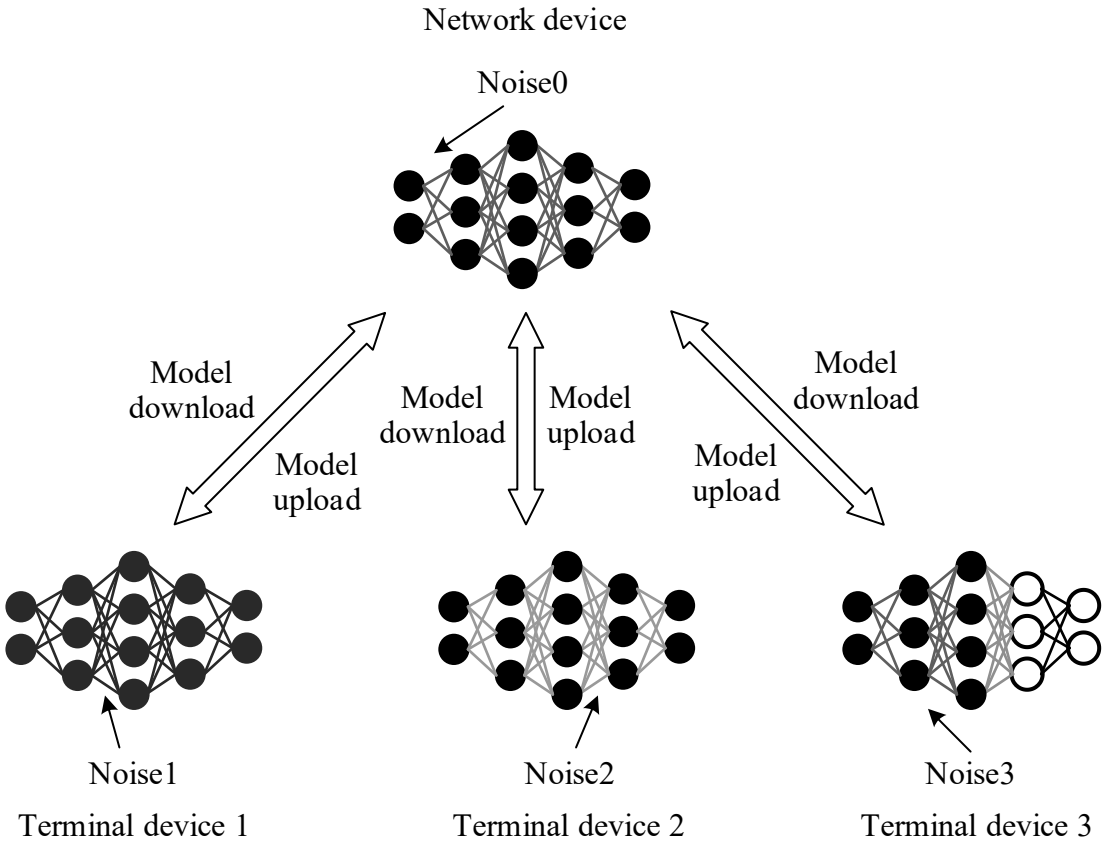

Network device
Noise0
Model download
Model upload
Model download
Model upload
Model download
Model upload
Noise1
Noise2
Noise3
Terminal device 1
Terminal device 2
Terminal device 3

FIG. 4a

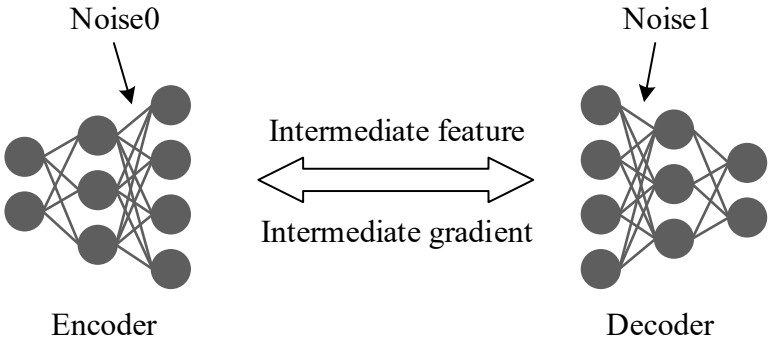

Noise0
Noise1
Intermediate feature
Intermediate gradient
Encoder
Decoder

FIG. 4b

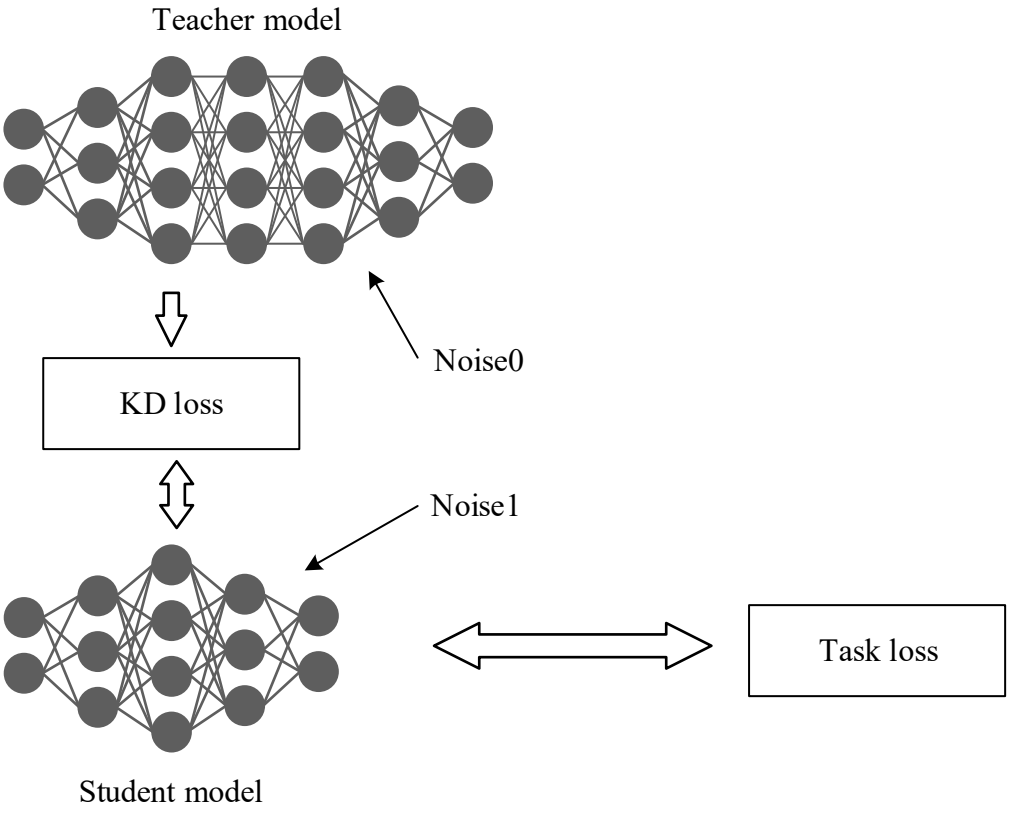

Teacher model
Noise0
KD loss
Noise1
Task loss
Student model

FIG. 4c

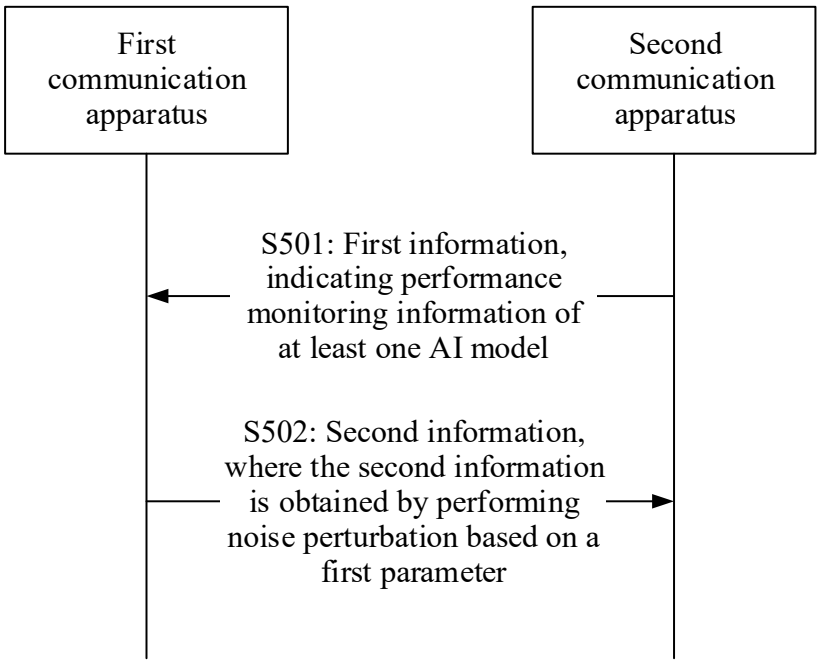

First communication apparatus
Second communication apparatus
S501: First information, indicating performance monitoring information of at least one AI model
S502: Second information, where the second information is obtained by performing noise perturbation based on a first parameter

FIG. 5

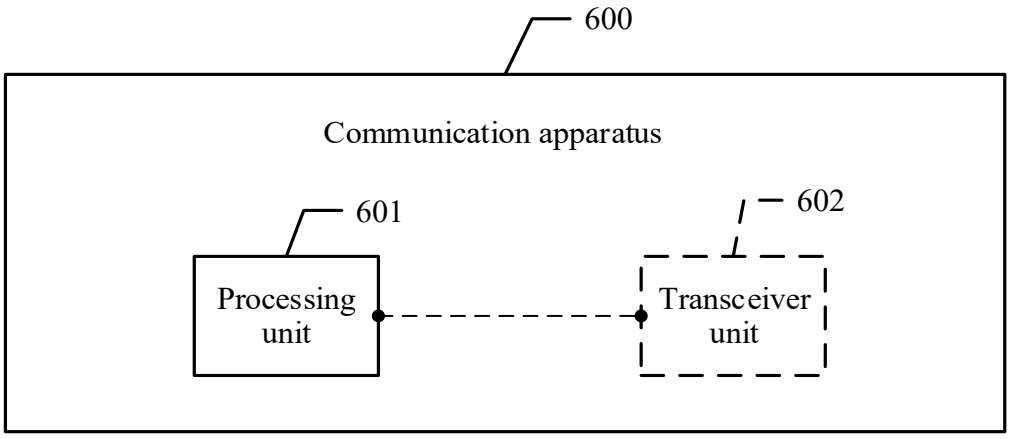

600
Communication apparatus
601
602
Processing unit
Transceiver unit

FIG. 6

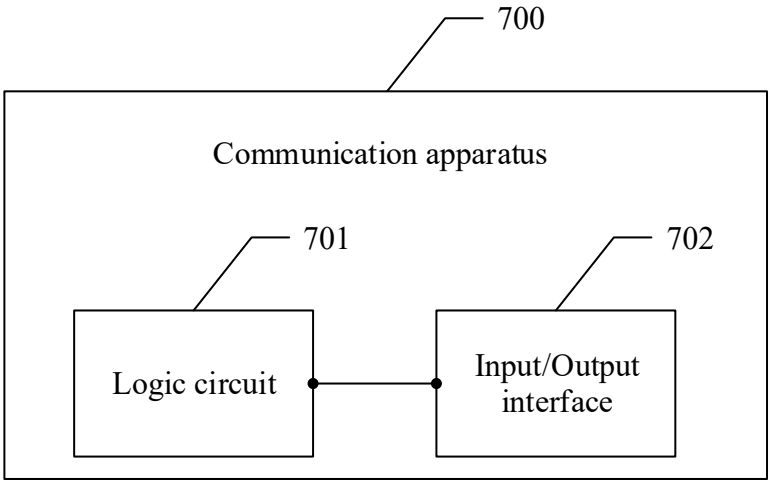

700
Communication apparatus
701
702
Logic circuit
Input/Output interface

FIG. 7

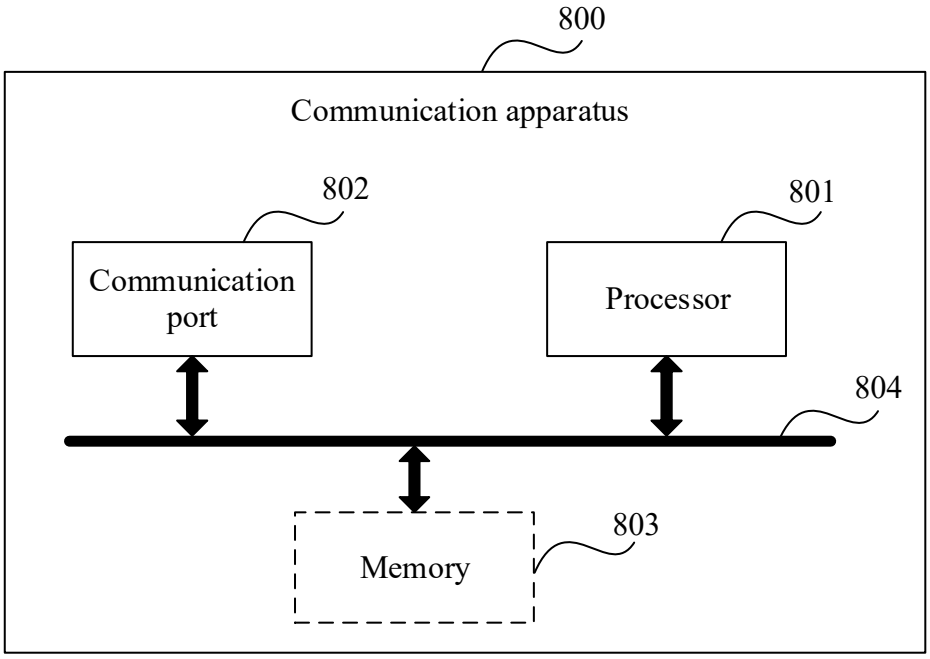

800
Communication apparatus
802
801
Communication port
Processor
804
803
Memory

FIG. 8

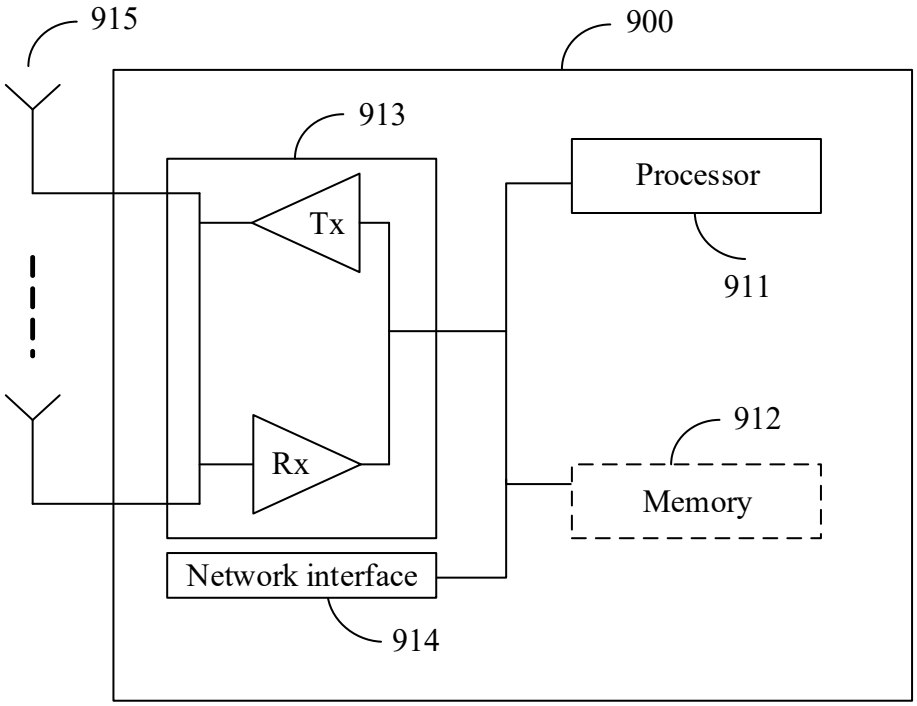

915
900
913
Processor
Tx
911
912
Rx
Memory
Network interface
914

FIG. 9

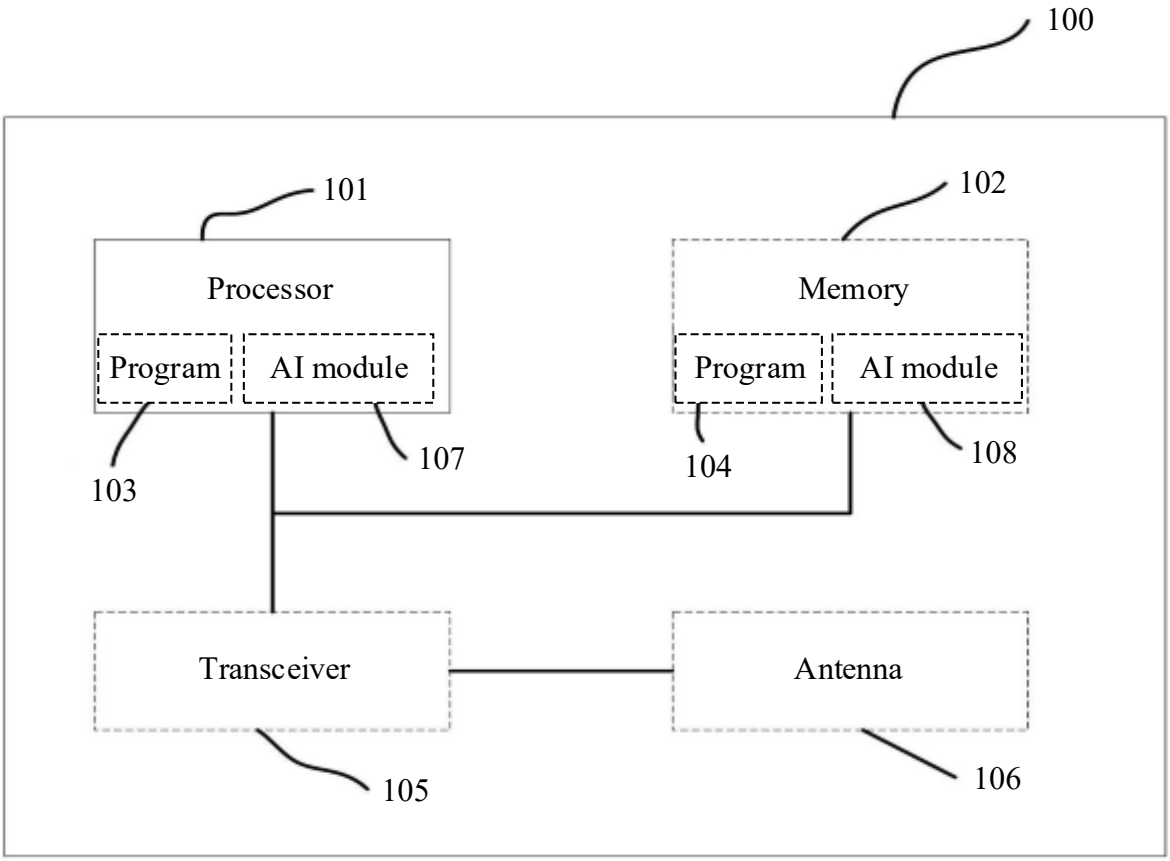

100
101
102
Processor
Memory
Program
AI module
Program
AI module
103
107
104
108
Transceiver
Antenna
105
106

FIG. 10