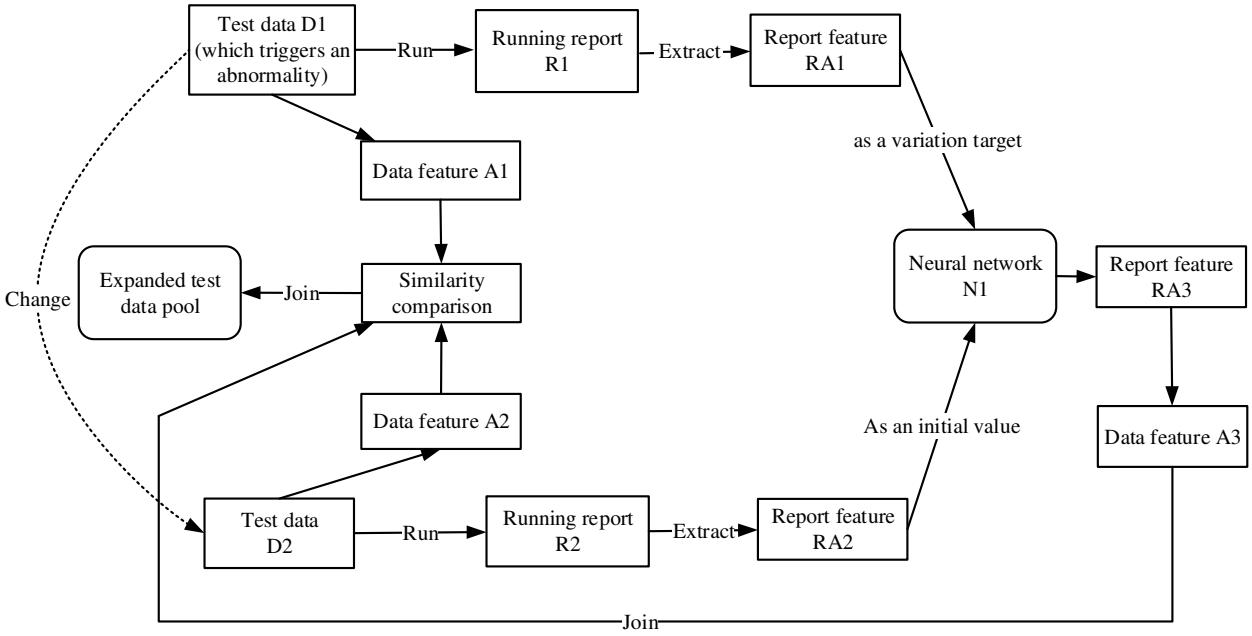
Test data D1 (which triggers an abnormality)
Run
Running report R1
Extract
Report feature RA1
as a variation target
Data feature A1
Neural network N1
Report feature RA3
Change
Expanded test data pool
Join
Similarity comparison
Data feature A2
As an initial value
Data feature A3
Test data D2
Run
Running report R2
Extract
Report feature RA2
Join

FIG. 1

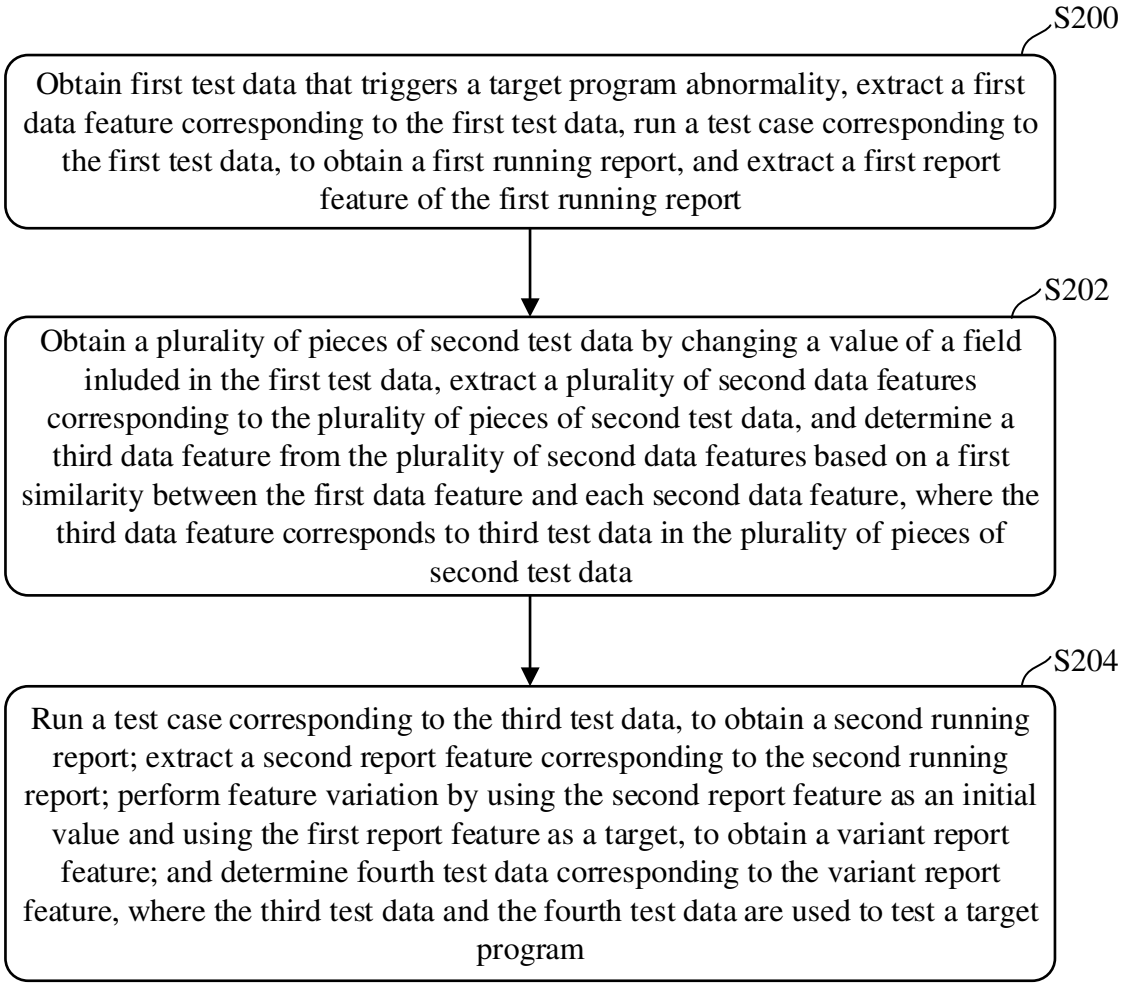
S200
Obtain first test data that triggers a target program abnormality, extract a first data feature corresponding to the first test data, run a test case corresponding to the first test data, to obtain a first running report, and extract a first report feature of the first running report
S202
Obtain a plurality of pieces of second test data by changing a value of a field inluded in the first test data, extract a plurality of second data features corresponding to the plurality of pieces of second test data, and determine a third data feature from the plurality of second data features based on a first similarity between the first data feature and each second data feature, where the third data feature corresponds to third test data in the plurality of pieces of second test data
S204
Run a test case corresponding to the third test data, to obtain a second running report; extract a second report feature corresponding to the second running report; perform feature variation by using the second report feature as an initial value and using the first report feature as a target, to obtain a variant report feature; and determine fourth test data corresponding to the variant report feature, where the third test data and the fourth test data are used to test a target program

FIG. 2

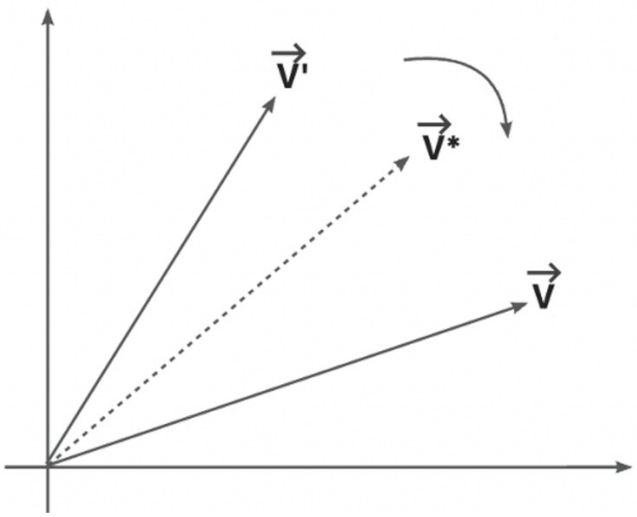
V'
V*
V

FIG. 3

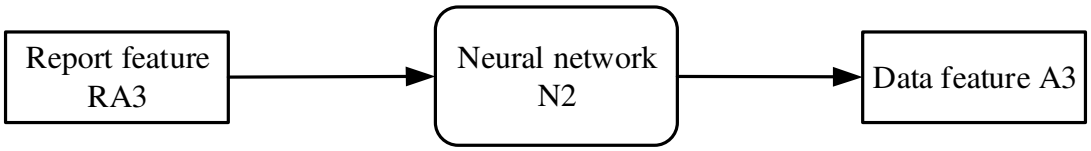
Report feature RA3
Neural network N2
Data feature A3

FIG. 4

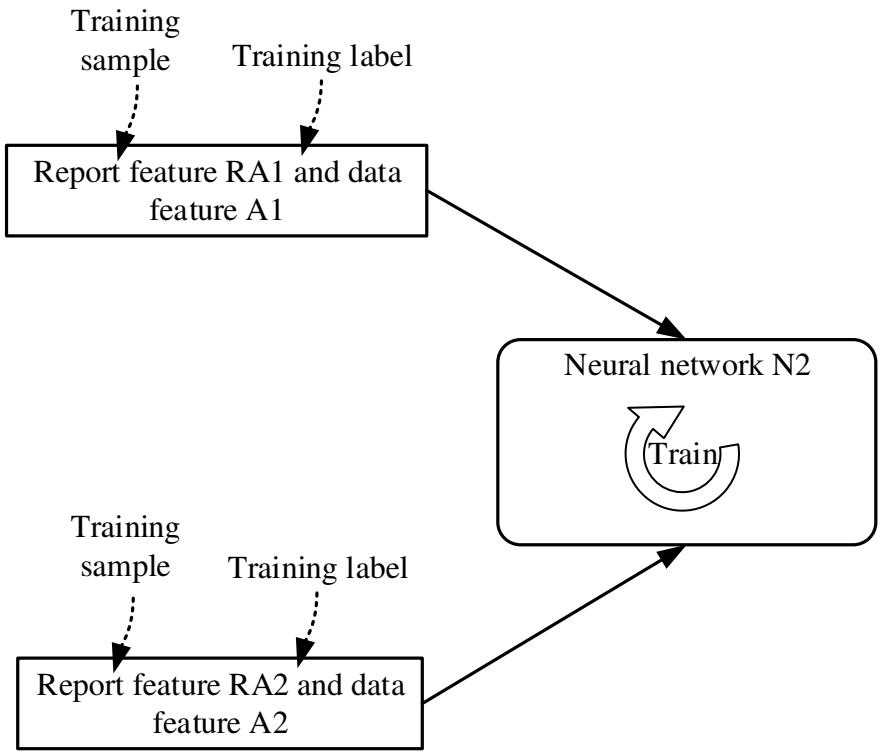
Training sample
Training label
Report feature RA1 and data feature A1
Neural network N2
Train
Training sample
Training label
Report feature RA2 and data feature A2

FIG. 5

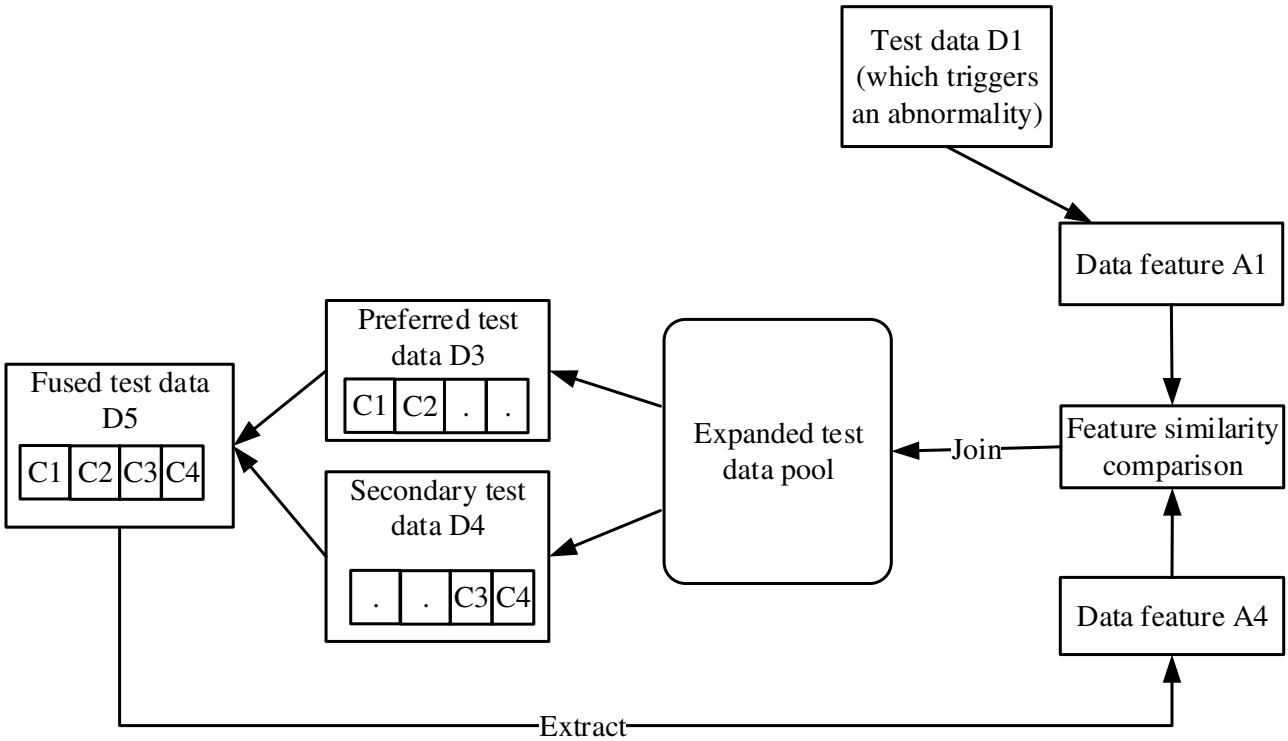
Test data D1 (which triggers an abnormality)
Data feature A1
Preferred test data D3
C1 C2 . .
Fused test data D5
C1 C2 C3 C4
Expanded test data pool
Join
Feature similarity comparison
Secondary test data D4
. . C3 C4
Data feature A4
Extract

FIG. 6

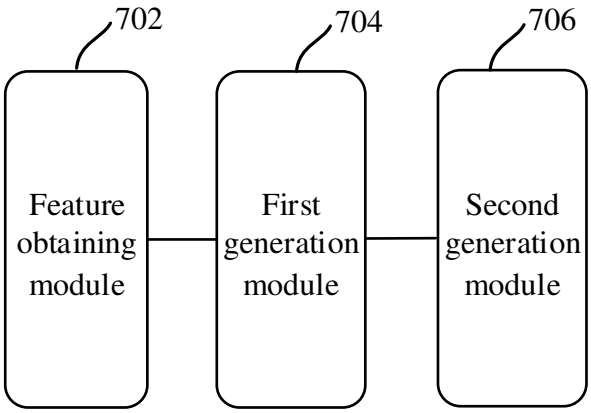
702
704
706
Feature obtaining module
First generation module
Second generation module

FIG. 7

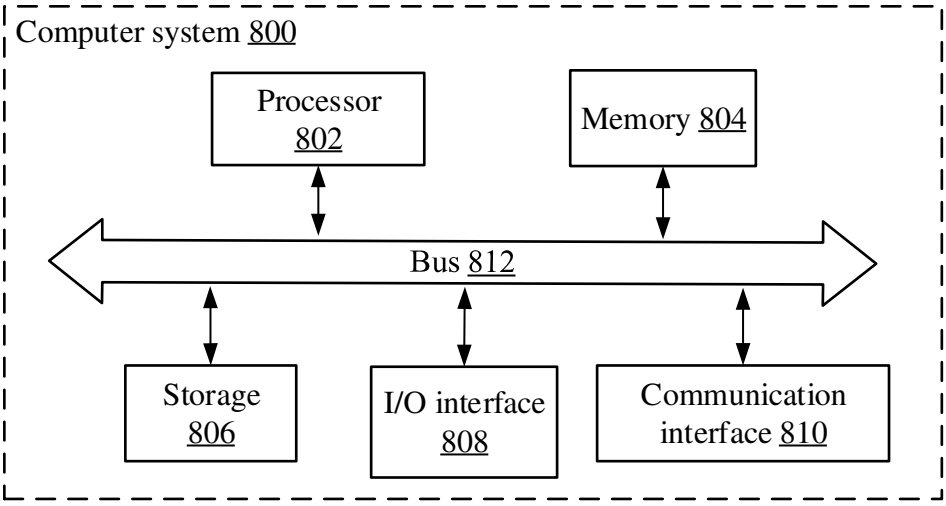
Computer system 800
Processor 802
Memory 804
Bus 812
Storage 806
I/O interface 808
Communication interface 810

FIG. 8