

WHAT IS CLAIMED IS:

1. A method comprising:

receiving, by a computer, historical interaction data, wherein the historical interaction data includes a plurality of historical interactions, each historical interaction associated with a plurality of data fields, the data fields being interdependent;

assigning, by the computer, a plurality of weights to the plurality of data fields;

generating, by the computer, a neural network using the plurality of weights and the plurality of data fields;

identifying, by the computer, using the neural network, a first plurality of feature indicators indicative of a first class, the first class being different from a second class;

receiving, by the computer, a second plurality of feature indicators derived from data relating to compromised accounts;

updating, a probability distribution component in the computer using the first plurality of feature indicators and the second plurality of feature indicators;

receiving, by the computer, current data for an interaction, wherein the current data;

applying, by the computer, the probability distribution component to the current data; and

scoring, by the computer, the interaction using the probability distribution component.

2. The method of claim 1, wherein the neural network is a first neural network, the plurality of data fields is a first plurality of data fields, and wherein the method further comprises:

receiving, by a computer, recent interaction data, wherein the recent interaction data includes a plurality of recent interactions, each recent interaction associated with a second plurality of data fields, the data fields being interdependent;

generating, by the computer, a second neural network using a second plurality of weights and the second plurality of fields associated with the recent interaction data;

identifying, by the computer, using the second neural network, a third plurality of feature indicators indicative of the first class; and

updating, the probability distribution component in the computer using the first plurality of feature indicators and the second plurality of feature indicators comprises updating the probability distribution component in the computer using the first plurality of feature indicators, the second plurality of feature indicators, and the third plurality of feature indicators.

3. The method of claim 2, wherein the first neural network is an offline neural network and the second neural network is an online neural network.

4. The method of claim 1, further comprising:
generating a behavioral plane for a user profile with respect to time.

5. The method of claim 4, wherein a plurality of feature indicator weights belong to the user profile, and wherein the plurality of feature indicator weights are mapped in the behavioral plane.

6. The method of claim 5, further comprising:
determining a number of deviations of feature indicator weights for the plurality of current feature indicators from the behavioral plane.

7. The method of claim 1, wherein the current data is received in an authorization request message from an access device operated by a resource provider.

8. The method of claim 7, further comprising:

declining access to a resource provided by the resource provider if the score exceeds a threshold.

9. The method of claim 8, further comprising, if the score does not exceed the threshold, modifying the authorization request message to include the score and transmitting the modified authorization request message to an authorizing computer.

10. The method of claim 1, wherein the neural network comprises sigmoid functions.

11. A computer comprising:
a processor; and
a computer readable medium, the computer readable medium comprising code, executable by the processor, for implementing a method comprising:
receiving historical interaction data, wherein the historical interaction data includes a plurality of historical interactions, each historical interaction associated with a plurality of data fields, the data fields being interdependent;
assigning a plurality of weights to the plurality of data fields;
generating a neural network using the plurality of weights and the plurality of data fields;
identifying using the neural network, a first plurality of feature indicators indicative of a first class, the first class being different from a second class;
receiving a second plurality of feature indicators derived from data relating to compromised accounts;
updating, a probability distribution component in the computer using the first plurality of feature indicators and the second plurality of feature indicators;
receiving current data for an interaction;
applying the probability distribution component to the current data; and
scoring the interaction using the probability distribution component.

12. The computer of claim 11, wherein the neural network is a first neural network, the plurality of data fields is a first plurality of data fields, and wherein the method further comprises:

receiving recent interaction data, wherein the recent interaction data includes a plurality of recent interactions, each recent interaction associated with a second plurality of data fields, the data fields being interdependent;

generating a second neural network using a second plurality of weights and the second plurality of fields associated with the recent interaction data;

identifying using the second neural network, a third plurality of feature indicators indicative of the first class; and

updating, the probability distribution component in the computer using the first plurality of feature indicators and the second plurality of feature indicators comprises updating the probability distribution component in the computer using the first plurality of feature indicators, the second plurality of feature indicators, and the third plurality of feature indicators.

13. The computer of claim 12, wherein the first neural network is an offline neural network and the second neural network is an online neural network.

14. The computer of claim 11, wherein the method further comprises:
generating a behavioral plane of a field of the plurality of fields with respect to time.

15. The computer of claim 14, wherein a plurality of feature indicator weights belong to the user profile, and wherein the plurality of feature indicator weights are mapped in the behavioral plane.

16. The computer of claim 15, further comprising:
determining a number of deviations of feature indicator weights for the plurality of current feature indicators from the behavioral plane.

17. The computer of claim 11, wherein the current data is received in an authorization request message from an access device operated by a resource provider.

18. The computer of claim 17, wherein the method further comprises:
declining access to a resource provided by the resource provider if the score exceeds a threshold.

19. The computer of claim 18, wherein the method further comprises, if the score does not exceed the threshold, modifying the authorization request message to include the score and transmitting the modified authorization request message to an authorizing computer.

20. The computer of claim 11, wherein the neural network comprises sigmoid functions.