

CLAIMS

What is claimed is:

1. A computer-implemented method for social content risk identification, comprising:

5 obtaining, by a computer and based on one or more recent user interactions with a plurality of applications that are other than payment applications, social content data comprising at least one of social behavior records or social message records;

extracting, by the computer, original features of the social content data, the original features comprising a first number of dimensions;

10 generating, by the computer and using a tree structured machine learning model, dimension-extended features for the original features, wherein the dimension-extended features i) include a set of extended sub-features corresponding to different dimensions of the original features, and ii) comprise a second number of dimensions, the second number being greater than the first number;

15 classifying, by the computer and using a deep machine learning model, that the social content data is risky social content data based on the dimension-extended features; and

transmitting, by the computer, a result of classifying that the social content data is risky social content data to a risk control platform.

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2. The computer-implemented method of claim 1, wherein the tree structured machine learning model and the deep machine learning model have been pre-trained by using black samples that are risky and white samples that are not risky.

25 3. The computer-implemented method of claim 1, wherein extracting the original features of the social content data comprises:

performing, by the computer, data cleaning on the social content data; and

extracting, by the computer based on feature engineering, the original features of the at least one of social behavior records or social message records from the social content data after the data cleaning.

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4. The computer-implemented method of claim 1, wherein generating the

dimension-extended features using the tree structured machine learning model comprises:

- inputting, by the computer, each original feature into the tree structured machine learning model that outputs prediction data of the original feature in a plurality of leaf nodes; and
- generating, by the computer, the dimension-extended features of the original feature based on the prediction data of the plurality of leaf nodes.

5. The computer-implemented method of claim 1, wherein after classifying that the social content data is the risky social content data, the method further comprises:

based on timed scheduling, periodically obtaining, by the computer, updated social content data and providing a risk identification result of the updated social content data to the risk control platform.

6. The computer-implemented method of claim 1, wherein the tree structured machine learning model comprises a gradient boosting decision tree (GBDT).

7. The computer-implemented method of claim 1, wherein the deep machine learning model comprises a deep neural network (DNN).

8. The computer-implemented method of claim 1, wherein the risky social content data comprises: misconducts or misstatements related to a specified field.

9. A non-transitory, computer-readable medium storing one or more instructions executable by a computer system to perform operations comprising:

obtaining, based on one or more recent user interactions with a plurality of applications that are other than payment applications, social content data comprising at least one of social behavior records or social message records;

extracting original features of the social content data, the original features comprising a first number of dimensions;

generating, using a tree structured machine learning model, dimension-extended features for the original features, wherein the dimension-extended features i) include a set of extended sub-features corresponding to different dimensions of the original features, and ii) comprise a second number of

dimensions, the second number being greater than the first number;

classifying, using a deep machine learning model, that the social content data is risky social content data based on the dimension-extended features; and

5 transmitting a result of classifying that the social content data is risky social content data to a risk control platform.

10 10. The non-transitory, computer-readable medium of claim 9, wherein the tree structured machine learning model and the deep machine learning model have been pre-trained by using black samples that are risky and white samples that are not risky.

11. The non-transitory, computer-readable medium of claim 9, wherein extracting the original features of the social content data comprises:
performing data cleaning on the social content data; and
extracting, based on feature engineering, the original features of the at least
15 one of social behavior records or social message records from the social content data after the data cleaning.

12. The non-transitory, computer-readable medium of claim 9, wherein generating the dimension-extended features using the tree structured machine learning model
20 comprises:
inputting each original feature into the tree structured machine learning model that outputs prediction data of the original feature in a plurality of leaf nodes; and
generating the dimension-extended features of the original feature based on the prediction data of the plurality of leaf nodes.

25 13. The non-transitory, computer-readable medium of claim 9, wherein after classifying that the social content data is the risky social content data, the operations further comprise:

based on timed scheduling, periodically obtaining updated social content data
30 and providing a risk identification result of the updated social content data to the risk control platform.

14. The non-transitory, computer-readable medium of claim 9, wherein the tree structured machine learning model comprises a gradient boosting decision tree

(GBDT).

15. The non-transitory, computer-readable medium of claim 9, wherein the deep machine learning model comprises a deep neural network (DNN).

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16. The non-transitory, computer-readable medium of claim 9, wherein the risky social content data comprises: misconducts or misstatements related to a specified field.

10 17. A computer-implemented system, comprising:

one or more computers; and

one or more computer memory devices interoperably coupled with the one or more computers and having tangible, non-transitory, machine-readable media storing one or more instructions that, when executed by the one or more computers, perform operations comprising:

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obtaining, based on one or more recent user interactions with a plurality of applications that are other than payment applications, social content data comprising at least one of social behavior records or social message records;

extracting original features of the social content data, the original features comprising a first number of dimensions;

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generating, using a tree structured machine learning model, dimension-extended features for the original features, wherein the dimension-extended features i) include a set of extended sub-features corresponding to different dimensions of the original features, and ii) comprise a second number of dimensions, the second number being greater than the first number;

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classifying, using a deep machine learning model, that the social content data is risky social content data based on the dimension-extended features; and

transmitting a result of classifying that the social content data is risky social content data to a risk control platform.

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18. The computer-implemented system of claim 17, wherein the tree structured machine learning model and the deep machine learning model have been pre-trained by using black samples that are risky and white samples that are not risky.

19. The computer-implemented system of claim 17, wherein extracting the original features of the social content data comprises:

performing data cleaning on the social content data; and

5 extracting, based on feature engineering, the original features of the at least one of social behavior records or social message records from the social content data after the data cleaning.

20. The computer-implemented system of claim 17, wherein generating the dimension-extended features using the tree structured machine learning model
10 comprises:

inputting each original feature into the tree structured machine learning model that outputs prediction data of the original feature in a plurality of leaf nodes; and

generating the dimension-extended features of the original feature based on
15 the prediction data of the plurality of leaf nodes.

21. The computer-implemented system of claim 17, wherein after classifying that the social content data is the risky social content data, the operations further comprise:

based on timed scheduling, periodically obtaining updated social content data
20 and providing a risk identification result of the updated social content data to the risk control platform.

22. The computer-implemented system of claim 17, wherein the tree structured machine learning model comprises a gradient boosting decision tree (GBDT).
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23. The computer-implemented system of claim 17, wherein the deep machine learning model comprises a deep neural network (DNN).

24. The computer-implemented system of claim 17, wherein the risky social content data comprises: misconducts or misstatements related to a specified field.
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25. The computer-implemented method of claim 1, wherein generating the dimension-extended features for the original features comprises:

inputting, by the computer, the original features to the tree structured machine

learning model to obtain prediction data of a plurality of leaf nodes; and
 generating, by the computer, the dimension-extended features based on
 extracting features from the prediction data of the plurality of leaf nodes.

- 5 ~~26. — The computer-implemented method of claim 1, wherein a ratio of the second
 number to the first number is 10:1 or greater.~~

27.26. The computer-implemented method of claim 1, wherein a ratio of the second
 number to the first number is 30:1 ~~or greater.~~