

CLAIMS

1. A method, comprising:
 - receiving, by one or more processors, a data source based at least in part on an input from a user;
 - 5 determining, by the one or more processors, a target process to be used in connection with analyzing the data source, the target process being determined based at least in part on a selection input by the user;
 - processing, by the one or more processors, the data source based at least in part on the target process, wherein:
 - 10 a classification result for the data source, and target data within the data source are obtained based at least in part on the processing of the data source; and
 - the target process is configured to call a first machine learning model in connection with processing the data source to obtain the classification result and the target data; and
 - 15 outputting, by the one or more processors, the classification result and the target data.
2. The method of claim 1, wherein determining a target process comprises:
 - obtaining at least one analysis process corresponding to a data type of the data source;
 - outputting, on a user interface, information pertaining to the at least one analysis process;
 - 20 receiving, by the one or more processors, a selection input by the user, the selection input corresponding to a selection of an analysis process; and
 - in response to receiving the selection input, determining, by the one or more processors, the target process from among the at least one analysis processes based at least in part on the selection input.
- 25 3. The method of claim 2, further comprising:
 - outputting, by the one or more processors, processing information pertaining to the target process, wherein the processing information includes at least one of the following: a processing device, a processing time, and a resource transfer amount.
4. The method of claim 1, wherein:
 - 30 the first machine learning model is obtained by training a preset model based at least in part on an alternating between use of multiple first training samples and multiple second training samples;

each first training sample comprises data, a classification label for the data, and label information for target data within the data; and

each second training sample comprises data and a classification label for the data.

5. A method, comprising:

5 obtaining, by one or more processors, a first medical image, wherein the first medical image includes a representation of a target organ; and

processing, by the one or more processors, the first medical image based at least in part on a first machine learning model, wherein:

10 a classification result associated with the first medical image and a first image of a target region in the first medical image are obtained based at least in part on the processing of the first medical image using the first machine learning model; and the first machine learning model is configured to:

obtain first medical image, input the first medical image into an encoder network;

15 obtain feature information associated with the target region; separately input the feature information associated with the target region into a classification network and a decoder network; and

obtain the classification result and the first image of the target region based at least in part on a processing of the feature information by the classification network and the decoder network.

6. The method of claim 5, further comprising:

obtaining multiple first training samples and multiple second training samples, wherein:

25 each first training sample comprises a medical image comprising a representation of a target organ, a classification label for the medical image, and label information for the target region in the medical image; and

each second training sample comprises a medical image comprising a representation of the target organ and the classification label for the medical image; and

30 alternating between use of the multiple first training samples and the multiple second training samples to train a preset model and to obtain the first machine learning model.

7. The method of claim 5, further comprising:

processing, by the one or more processors, the first medical image based at least in

part on a second machine learning model, wherein:

the processing of the first medical image using the second machine learning model is performed after the first image of the target region is obtained;

a second image of the target organ is obtained based at least in part on the
 5 processing of the first medical image using the second machine learning model; and
 the second machine learning model is configured to:

obtain the first medical image;

input the first medical image into an encoder network;

obtain feature information pertaining to the target organ;

10 input the feature information pertaining to the target organ into a
 decoder network; and

obtain the second image based at least in part on a processing of the
 feature information by the decoder network; and

obtaining a first proportion of the target region in the target organ based at least in
 15 part on the first image and the second image.

8. The method of claim 7, wherein the first proportion is determined based at least in part on a difference or change between the first image and the second image.

9. The method of claim 7, further comprising:

obtaining, by the one or more processors, a second medical image comprising a
 20 representation of the target organ;

processing, by the one or more processors, the second medical image based at least in part on the first machine learning model, wherein a third image of the target region in the second medical image is obtained based at least in part on the processing of the second medical image using the first machine learning model;

25 processing, by the one or more processors, the second medical image based at least in part on the second machine learning model, wherein a fourth image of the target organ is obtained based at least in part on the processing of the second medical image using the second machine learning model; and

obtaining, by the one or more processors, a second proportion of the target region in
 30 the target organ, the second proportion being obtained based at least in part on the third image and the second image.

10. The method of claim 9, further comprising:

processing, by the one or more processors, the first medical image and the second

medical image based at least in part on a third machine learning model, wherein:

the processing the first medical image and the second medical image comprises obtaining a deformation relationship between the first medical image and the second medical image; and

- 5 the third machine learning model is configured to:
- obtain the first medical image and the second medical image;
 - input the first medical image and the second medical image separately into at least two rigidity networks;
 - obtain a first rigid body parameter of the first medical image and a
 - 10 second rigid body parameter of the second medical image;
 - input the first rigid body parameter and the second rigid body parameter into an affine grid network; and
 - obtain the deformation relationship based at least in part on a processing of the affine grid network using the first rigid body parameter and
 - 15 the second rigid body parameter;
 - obtaining a registered image corresponding to the second medical image based on a processing of the second medical image, wherein the processing of the second medical image is based at least in part on the deformation relationship; and
 - obtaining the third image and the fourth image based at least in part on a separate
 - 20 processing of the registered image based at least in part on the first machine learning model and the second machine learning model.

11. The method of claim 7, wherein the encoder network in the second machine learning model and the encoder network in the first machine learning model share weighting parameters.

25 12. The method of claim 7, wherein the encoder network and the decoder network both use three-dimensional convolutional layers.

13. A medical image processing method, comprising:

- receiving, by one or more processors, a first medical image comprising a representation of a target organ, wherein the first medical image is uploaded via an interface
- 30 provided by a terminal; and
- outputting, by the one or more processors, a classification result for the first medical image and a first image of a target region in the first medical image, wherein the classification result and the first image are obtained based at least in part on a processing of

the first medical image using a first machine learning model.

14. The method of claim 13, further comprising
receiving, by the one or more processors, a first request, wherein the first request is
input to the terminal via the interface; and

5 in response to receiving the first request, outputting, by the one or more processors,
the first medical image and a first proportion of the target region in the target organ, wherein:
the first proportion is obtained based at least in part on the first image and a
second image of the target organ; and

10 the second image is obtained based at least in part on processing the first
image using a second machine learning model.

15. The method of claim 14, further comprising:
receiving, by the one or more processors, a second request, wherein the second
request is input to the terminal via the interface;

15 in response to receiving the second request, obtaining a second medical image
comprising a representation of the target organ; and
outputting, by the one or more processors, the second medical image and a second
proportion of the target region in the target organ, wherein:

the second proportion is obtained based at least in part on a third image of the
target region in the second medical image and a fourth image of the target organ;

20 the third image is obtained based at least in part on processing the second
medical image using the first machine learning model; and

the fourth image is obtained based at least in part on processing the second
medical image using the second machine learning model.

16. The method of claim 15, further comprising:

25 providing a registered image corresponding to the second medical image, wherein:

the registered image is obtained based at least in part on processing the second
medical image on the basis of a deformation relationship between the first medical
image and the second medical image; and

30 the deformation relationship is obtained based at least in part on processing the
first medical image and the second medical image using a third machine learning
model.

17. The method of claim 16, wherein:

the first medical image and the registered image are output side-by-side on the interface;

the first proportion is presented on the first medical image; and

the second proportion is presented on the registered image.

- 5 18. A computer program product, the computer program product being embodied in a non-transitory computer readable storage medium and comprising computer instructions for: receiving, by one or more processors, a data source based at least in part on an input from a user;

10 determining, by the one or more processors, a target process to be used in connection with analyzing the data source, the target process being determined based at least in part on a selection input by the user;

processing, by the one or more processors, the data source based at least in part on the target process, wherein:

15 a classification result for the data source, and target data within the data source are obtained based at least in part on the processing of the data source; and

the target process is configured to call a first machine learning model in connection with processing the data source to obtain the classification result and the target data; and

outputting, by the one or more processors, the classification result and the target data.

- 20 19. A computer program product, the computer program product being embodied in a non-transitory computer readable storage medium and comprising computer instructions for: obtaining, by one or more processors, a first medical image, wherein the first medical image includes a representation of a target organ; and

25 processing, by the one or more processors, the first medical image based at least in part on a first machine learning model, wherein:

a classification result associated with the first medical image and a first image of a target region in the first medical image are obtained based at least in part on the processing of the first medical image using the first machine learning model; and the first machine learning model is configured to:

30 obtain the first medical image and input the first medical image into an encoder network;

obtain feature information associated with the target region;

separately input the feature information associated with the target

region into a classification network and a decoder network; and
obtain the classification result and the first image of the target region
based at least in part on a processing of the feature information by the
classification network and the decoder network.

- 5 20. A medical image processing system, comprising:
one or more processors configured to:
obtain a first medical image, wherein the first medical image includes a
representation of a target organ; and
process the first medical image based at least in part on a first machine
10 learning model, wherein:
a classification result associated with the first medical image and a first
image of a target region in the first medical image are obtained based at least
in part on the processing of the first medical image using the first machine
learning model; and
15 the first machine learning model is configured to:
obtain the first medical image and input the first medical image
into an encoder network;
obtain feature information associated with the target region;
separately input the feature information associated with the
20 target region into a classification network and a decoder network; and
obtain the classification result and the first image of the target
region based at least in part on a processing of the feature information
by the classification network and the decoder network; and
one or more memories coupled to the one or more processors, configured to provide
25 the one or more processors with instructions.