

CLAIMS

1. A method for image recognition, comprising:

acquiring an image to be recognized;

performing, through convolutional layers in a neural network model, feature extraction processing on the image to be recognized, to obtain feature maps;

performing Instance Normalization (IN) processing on a first channel set comprising part of channels corresponding to feature maps output by each convolutional layer in a first convolutional layer set and performing Batch Normalization (BN) processing on a second channel set comprising part of channels corresponding to feature maps output by each convolutional layer in a second convolutional layer set, to obtain a recognition result of the image to be recognized, wherein the first convolutional layer set and the second convolutional layer set are selected from the convolutional layers in the neural network model, and channels comprised in the first channel set are different from channels comprised in the second channel set; and

outputting the recognition result of the image to be recognized.

2. The method of claim 1, wherein a training process of the neural network model comprises:

determining the first convolutional layer set and the second convolutional layer set from the convolutional layers in the neural network model;

performing IN processing on the feature maps output by each convolutional layer in the first convolutional layer set; and

performing BN processing on the feature maps output by each convolutional layer in the second convolutional layer set.

3. The method of claim 2, wherein a set formed by the first convolutional layer set and the second convolutional layer set comprises all or part of the convolutional layers in the neural network model.

4. The method of claim 2, wherein the first convolutional layer set is disjointed from the second convolutional layer set, or, the first convolutional layer set is intersected with the second convolutional layer set, or, the second convolutional layer set is a subset of the first convolutional layer set.

5. The method of claim 2, wherein performing the IN processing on the feature maps output by each convolutional layer in the first convolutional layer set comprises:
- determining a first channel set from the channels corresponding to the feature maps output by each convolutional layer in the first convolutional layer set; and
 - performing the IN processing on the first channel set.
6. The method of claim 2, wherein performing the BN processing on the feature maps output by each convolutional layer in the second convolutional layer set comprises:
- determining a second channel set from the channels corresponding to the feature maps output by each convolutional layer in the second convolutional layer set; and
 - performing the BN processing on the second channel set.
7. The method of claim 2, wherein the first convolutional layer set does not comprise a last convolutional layer of the neural network model.
8. The method of claim 2, wherein the neural network model comprises at least two blocks, a number of channels corresponding to feature maps output by a last layer in each block is the same as a number of channels corresponding to feature maps output by a last layer in a previous block, and the method further comprises:
- summing feature maps corresponding to the at least two blocks of the neural network model to obtain an output result; and
 - performing IN processing on the output result.
9. A computer device, comprising a memory and a processor, wherein the memory is configured to store computer-executable instructions and the processor is configured to run the computer-executable instructions in the memory to implement a method for image recognition comprising:
- acquiring an image to be recognized;
 - performing, through convolutional layers in a neural network model, feature extraction processing on the image to be recognized, to obtain feature maps;
 - performing Instance Normalization (IN) processing on a first channel set comprising part of channels corresponding to feature maps output by each convolutional layer in a first convolutional layer set and performing Batch Normalization (BN) processing on a second

channel set comprising part of channels corresponding to feature maps output by each convolutional layer in a second convolutional layer set, to obtain a recognition result of the image to be recognized, wherein the first convolutional layer set and the second convolutional layer set are selected from the convolutional layers in the neural network model, and channels comprised in the first channel set are different from channels comprised in the second channel set; and

outputting the recognition result of the image to be recognized.

10. The computer device of claim 9, wherein a training process of the neural network model comprises:

determining the first convolutional layer set and the second convolutional layer set from the convolutional layers in the neural network model;

performing IN processing on the feature maps output by each convolutional layer in the first convolutional layer set; and

performing BN processing on the feature maps output by each convolutional layer in the second convolutional layer set.

11. The computer device of claim 10, wherein a set formed by the first convolutional layer set and the second convolutional layer set comprises all or part of the convolutional layers in the neural network model.

12. The computer device of claim 10, wherein the first convolutional layer set is disjointed from the second convolutional layer set, or, the first convolutional layer set is intersected with the second convolutional layer set, or, the second convolutional layer set is a subset of the first convolutional layer set.

13. The computer device of claim 10, wherein performing the IN processing on the feature maps output by each convolutional layer in the first convolutional layer set comprises:

determining the first channel set from the channels corresponding to the feature maps output by each convolutional layer in the first convolutional layer set; and

performing the IN processing on the first channel set.

14. The computer device of claim 10, wherein performing the BN processing on the feature maps output by each convolutional layer in the second convolutional layer set comprises:

determining the second channel set from the channels corresponding to the feature maps output by each convolutional layer in the second convolutional layer set; and
performing the BN processing on the second channel set.

15. The computer device of claim 10, wherein the neural network model comprises at least two blocks, a number of channels corresponding to feature maps output by a last layer in each block is the same as a number of channels corresponding to feature maps output by a last layer in a previous block, and the method further comprises:

summing feature maps corresponding to the at least two blocks of the neural network model to obtain an output result, and performing IN processing on the output result.

16. The computer device of claim 10, wherein the first convolutional layer set does not comprise a last convolutional layer of the neural network model.

17. A ~~non-transitory computer-readable~~ storage medium, having stored thereon computer-executable instructions that, when executed by a processor, cause the processor to implement the method of any one of claims 1-8.