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(54) **DEVICE FOR PROCESSING IMAGE AND METHOD FOR OPERATING SAME**

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(57) **ABSTRACT**

Provided are a device and operating method thereof for obtaining compression ratio information for recognizing a target object in an image using a deep neural network model, and compressing an image using the compression ratio information and encoding the compressed image. According to an embodiment of the present disclosure, there is provided a device that receives an image via at least one camera or a communication interface, obtains a feature map for detecting a target object in the received image, outputs a compression ratio for correctly recognizing the target object in the image by inputting the image and the feature map to a deep neural network model composed of pre-trained model parameters, and generates a bitstream by compressing the image using the output compression ratio and encoding the compressed image.