

ABSTRACT

THREE-DIMENSIONAL AUTO-ENCODER AND TRAINING METHOD THEREFOR, ELECTRONIC DEVICE, AND STORAGE MEDIUM

Disclosed are a three-dimensional auto-encoder and a training method therefor, a training method for a three-dimensional vision module, an electronic device, and a storage medium. The three-dimensional auto-encoder comprises an encoder and a decoder; the encoder is used for extracting spatial feature parameters of an input picture to be processed and outputting the spatial feature parameters to the decoder; the decoder is used for outputting, according to the spatial feature parameters, a target picture comprising depth information of the picture to be processed; and the picture to be processed and the target picture are used for determining a loss function of the three-dimensional auto-encoder. According to the present invention, perception of three-dimensional scenario features of an image is implemented by means of self-supervision. Moreover, training can be performed by using massive training sets and using a large amount of unlabeled original data, which saves the labor and cost, and a trained model can be conveniently transplanted to other scenarios. Inductive bias of a three-dimensional spatial relationship is added to a neural network design, so that interactive information with an environment comprised in an action can be perceived and the accuracy of recognition can be improved.

FIG. 1