What IS Convolutional Neural Network

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Convolutional Neural Network,CNN,is a kind of feedforward neural network. Its artificial neurons can respond to a number of surrounding units in a range of coverage, and have excellent performance for large image processing,which include convolutional layer and pooling layer. [1]
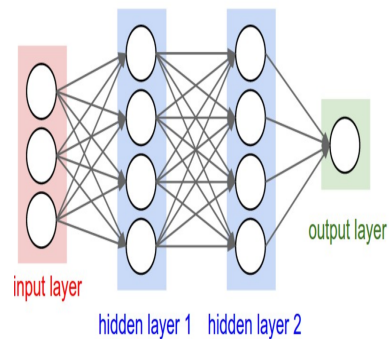
Convolution neural networks design neurons into three dimensions: width, height, depth, using the characteristics of input. For example, the size of the input image is 32 x 32 x 3 (RGB), so the input neuron also has a dimension of 32 x 32 x 3.Here are traditonal neural networks pic 1 and convolutional neural networks pic 2.
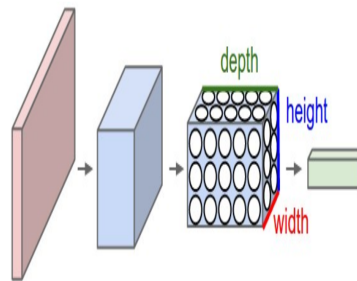

Figure 1: Traditonal Neural Network

Figure 2: Convolutional Neural Network

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References

[1] Sutskever I. Hinton Krizhevsky, A. G. imagenet classification with deep convolutional neural networks. *Wikipedia*, 135(6):269–284, 2011.