Convolutional Neural Network

In PyTorch

**Convolutional Neural Network** is one of the main categories to do image classification and image recognition in neural networks. Scene labeling, objects detections, and face recognition, etc., are some of the areas where convolutional neural networks are widely used.

CNN takes an image as input, which is classified and processed under a certain category such as dog, cat, lion, tiger, etc. The computer sees an image as an array of pixels and depends on the resolution of the image. Based on image resolution, it will see as **h \* w \* d**, where h= height w= width and d= dimension. For example, An RGB image is **6 \* 6 \* 3** array of the matrix, and the grayscale image is **4 \* 4 \* 1** array of the matrix.

In CNN, each input image will pass through a sequence of convolution layers along with pooling, fully connected layers, filters (Also known as kernels). After that, we will apply the Soft-max function to classify an object with probabilistic values 0 and 1.

