

## 池化层 (pooling Layer)

对信号收集并总结



尺寸大→小

平均值 or 最大值

`nn.MaxPool2d(kernel_size, stride, padding, dilation, return_indices, ceil_mode)`

`kernel_size`: 池化核尺寸

`stride`: 步长

`padding`: 填充步长

`dilation`: 池化核间隔大小

`ceil_mode`: 尺寸向上取整

`return_indices`: 记录索引

`nn.AvgPool2d(kernel_size, stride, padding, ceil_mode, count_include_pad, divisor_override)`

`kernel_size`: 池化核尺寸

`stride`: 步长

`padding`: 填充个数

`ceil_mode`: 尺寸向上取整



count\_include\_pad: 填充值用于计算  
divisor\_override: 除法因子

## 线性层 (Linear Layer)

又称全连接层, 下层神经元是上层神经元的  
线性变换

`nn.Linear(in_features, out_features, bias)`  
$$y = xW^T + bias$$

## 激活函数层 (Activation Layer)

对特征进行非线性变换

`nn.Sigmoid`  $y = \frac{1}{1+e^{-x}}$

`nn.tanh`  $y = \frac{2}{1+e^{-x}} - 1$

`nn.ReLU`  $y = \max(0, x)$

`nn.LeakyReLU`      `nn.PReLU`      `nn.RReLU`