

# 1.LeNet5

1994年, LeCun提出, 论文地址[Gradient-based learning applied to document recognition](https://arxiv.org/abs/1994.12.21)

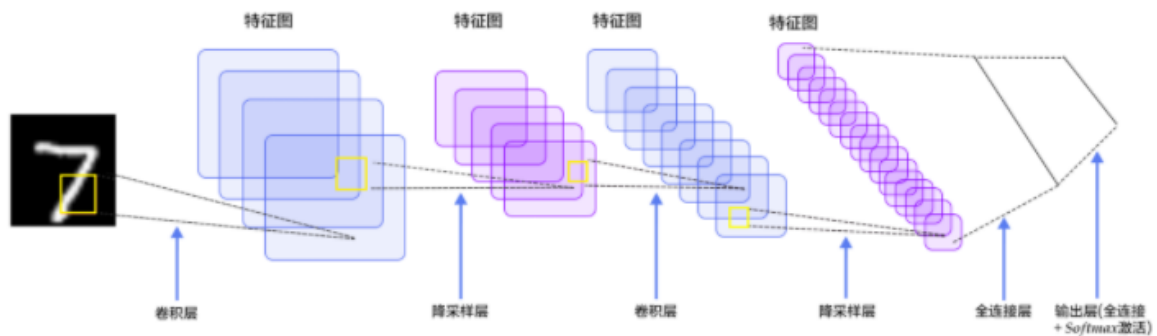


图1 LeNet5网络结构

pytorch实现

```
1 class LeNet5(nn.Module):
2     def __init__(self):
3         self.conv1 = nn.Conv2d(1, 6, 5, 1, 0)
4         self.maxpool1 = nn.MaxPool2d(2, 2)
5         self.conv2 = nn.Conv2d(5, 16, 5, 1, 0)
6         self.maxpool2 = nn.MaxPool2d(2, 2)
7         self.conv3 = nn.Conv2d(16, 120, 5, 1, 0)
8         self.fc1 = nn.Linear(120, 84)
9         self.fc2 = nn.Linear(84, 10)
10
11     def forward(self, x):
12         x = self.conv1(x)
13         x = self.maxpool1(x)
14         x = self.conv2(x)
15         x = self.maxpool2(x)
16         x = self.conv3(x)
17         x = torch.flatten(x, 1)
18         x = self.fc1(x)
19         x = self.fc2(x)
20         return x
```