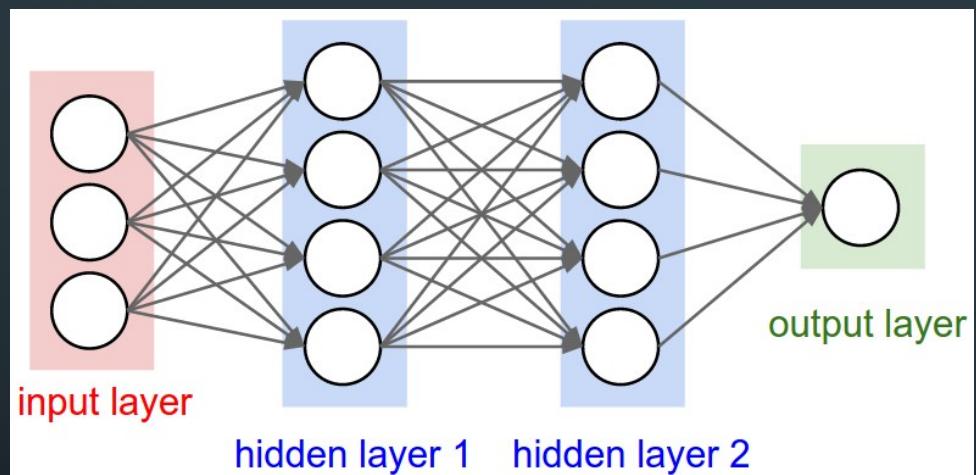


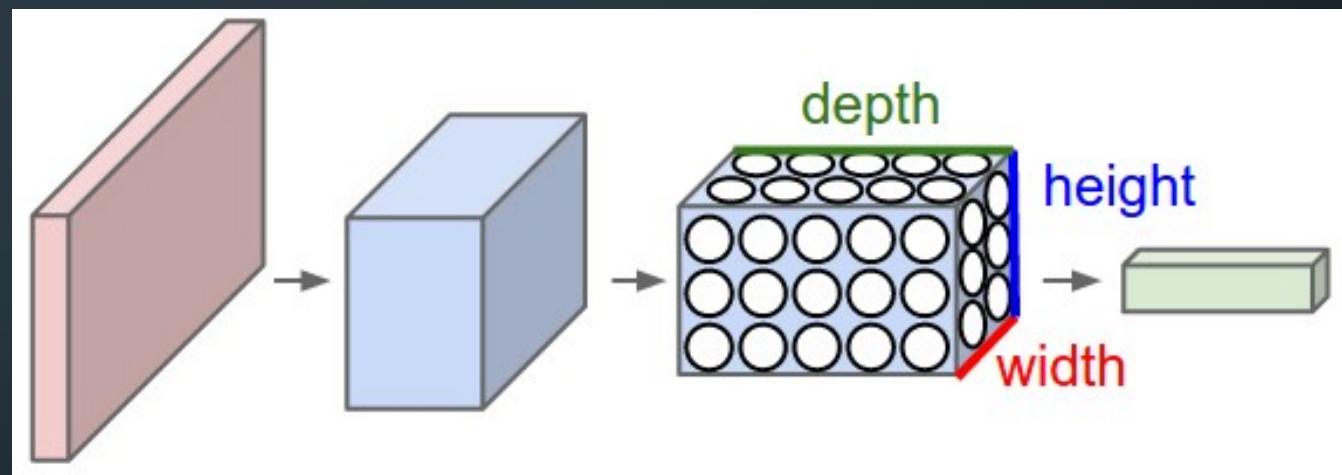
CNN 간단히 알아보기

정겨울

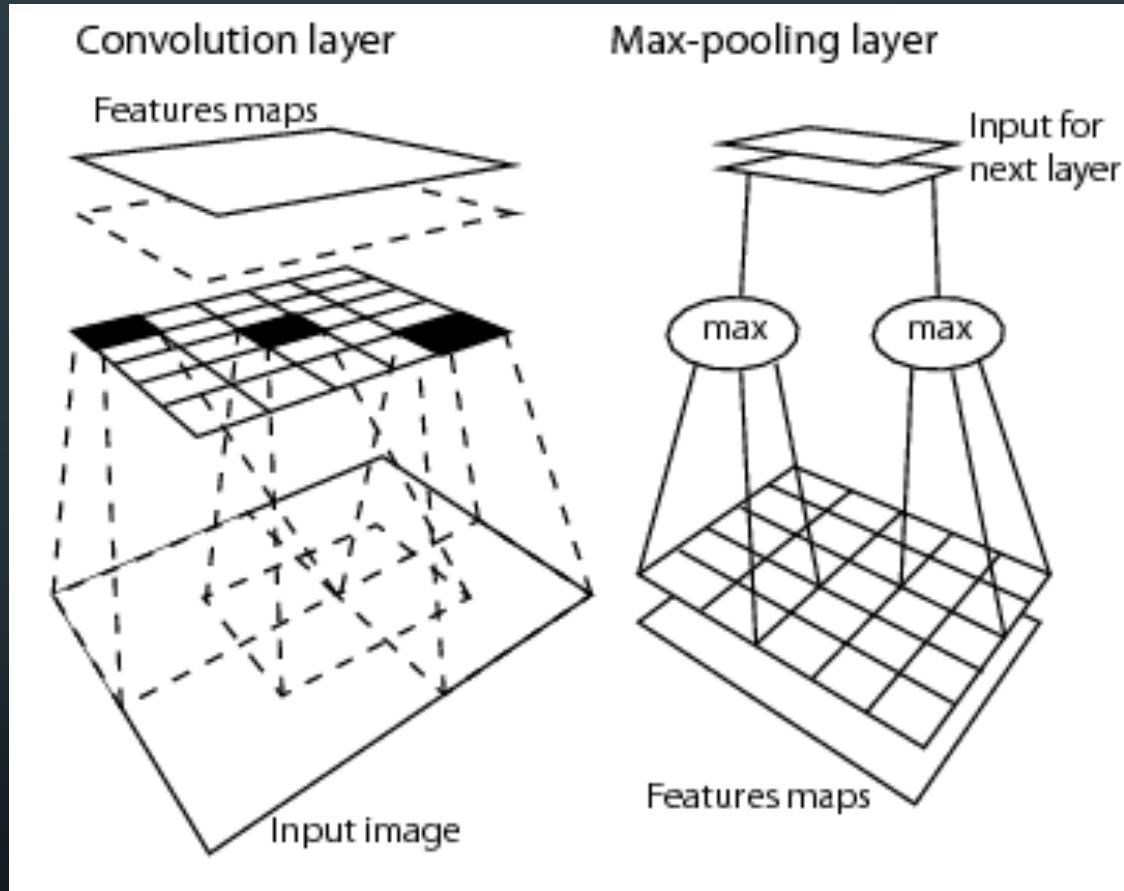
Regular NN



CNN



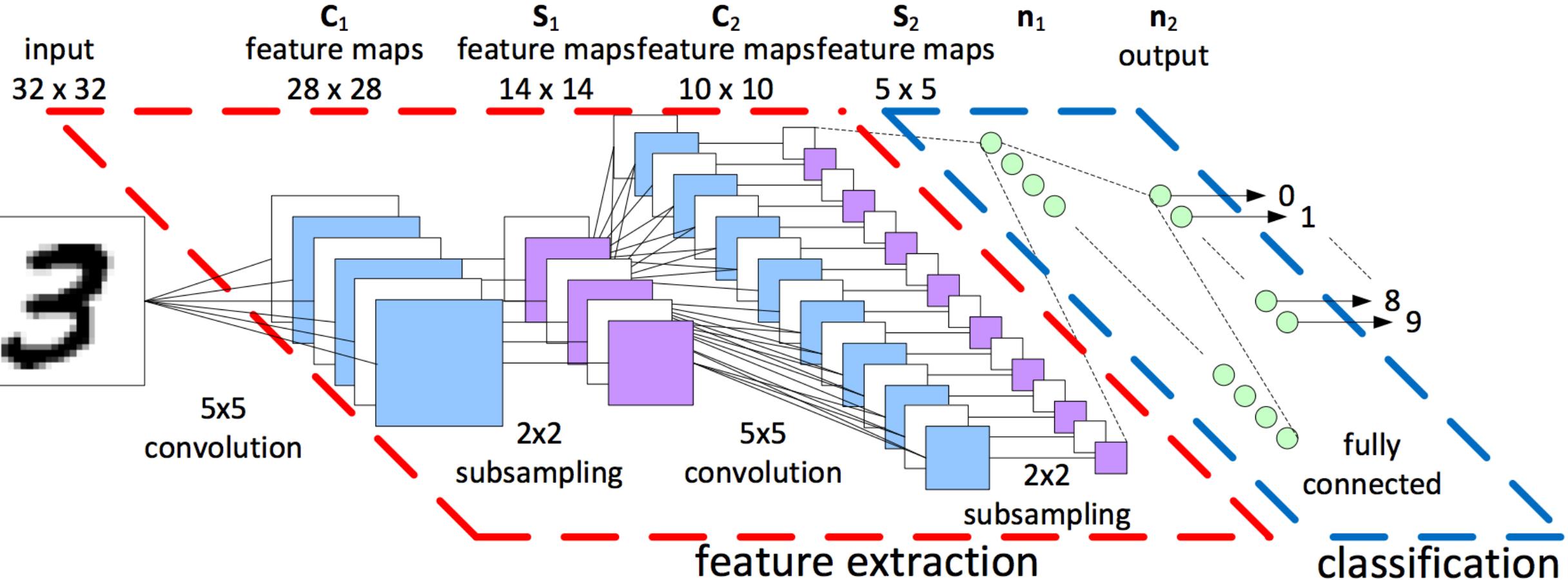
CNN의 핵심 구조



데이터의 형상 반영 가능

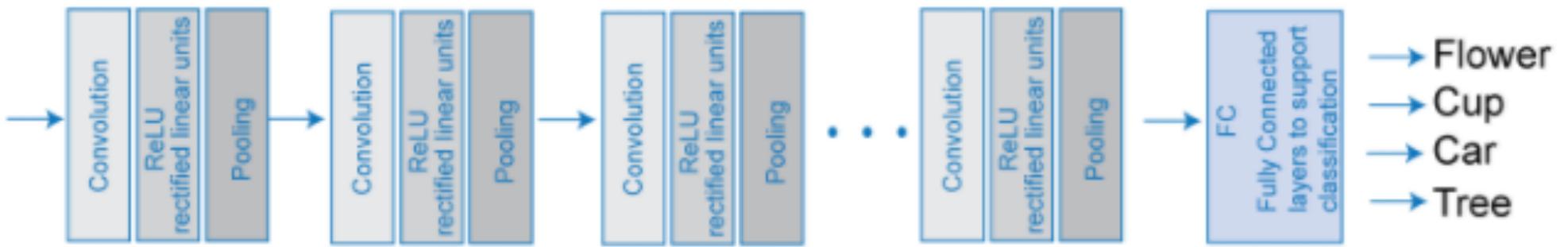
model parameter 개수 감소
↓
전체 model complexity 감소
↓
overfitting issue 해결

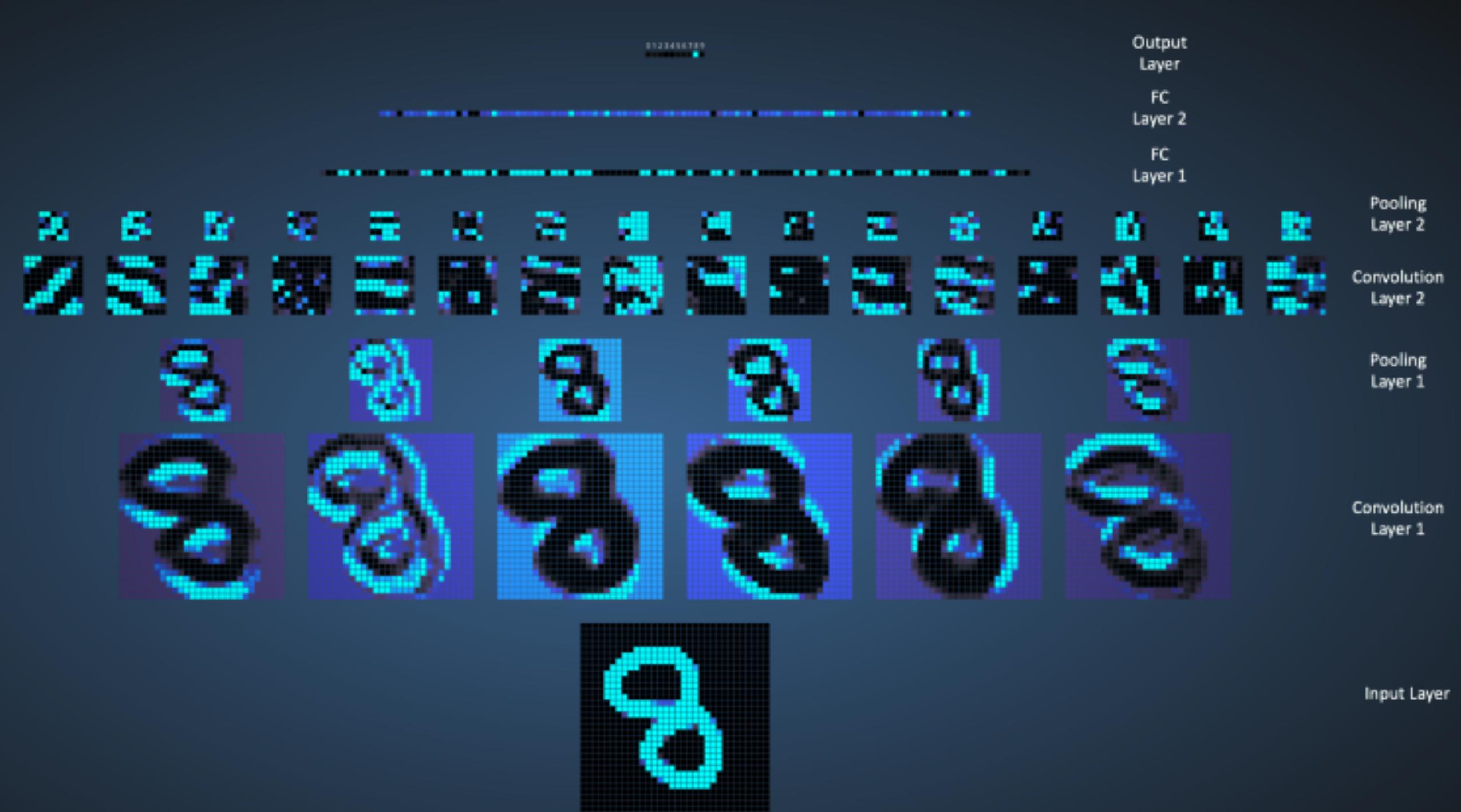
구조





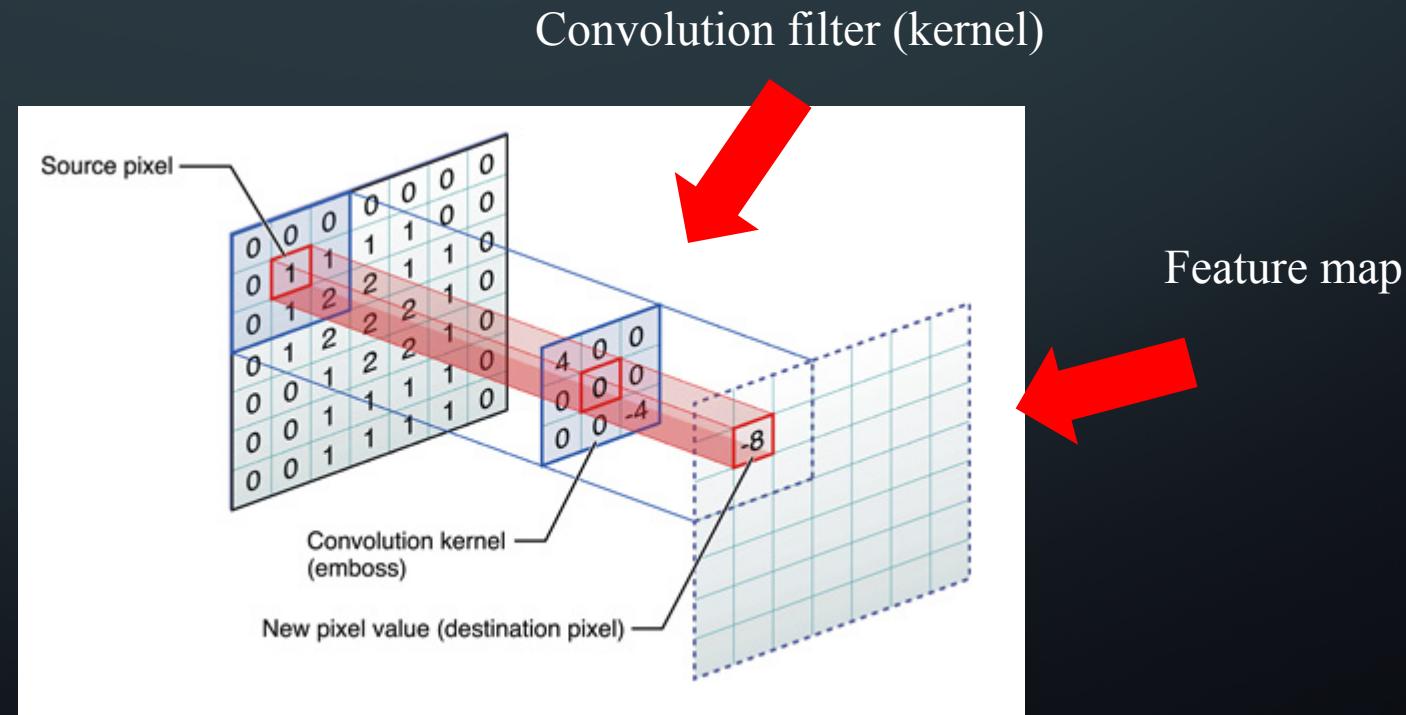
Input Image





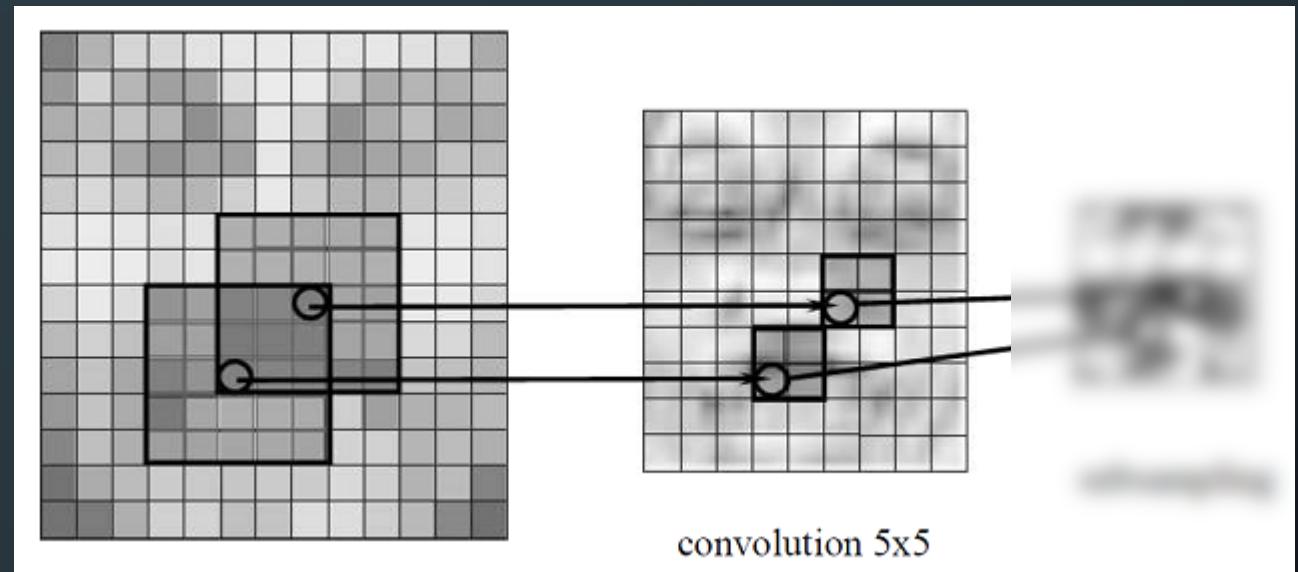
Convolution Layer 핵심 아이디어

preprocessing을 가장 잘해주는, 가장 좋은 feature map을 뽑아주는 convolution filter를 학습하는 모델을 만들자

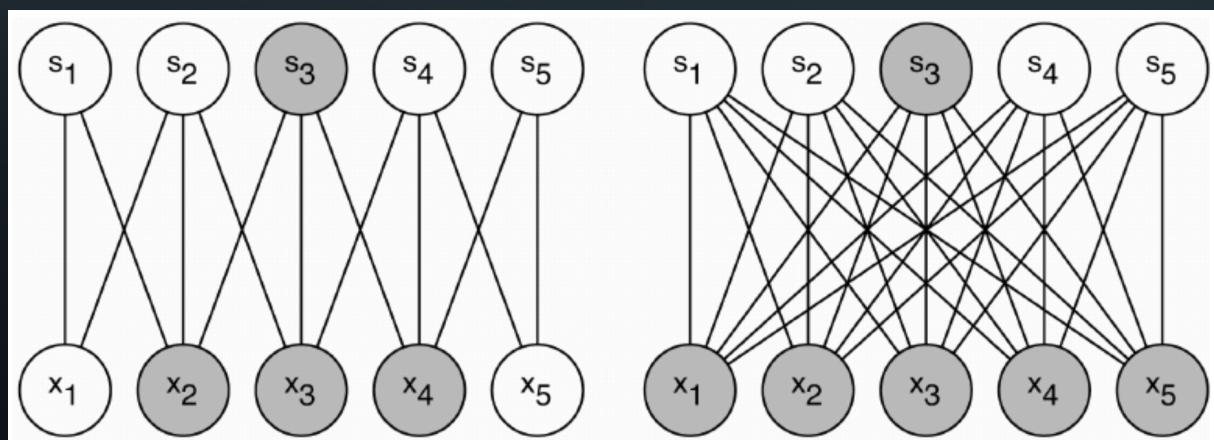


Convolution Layer 핵심 아이디어

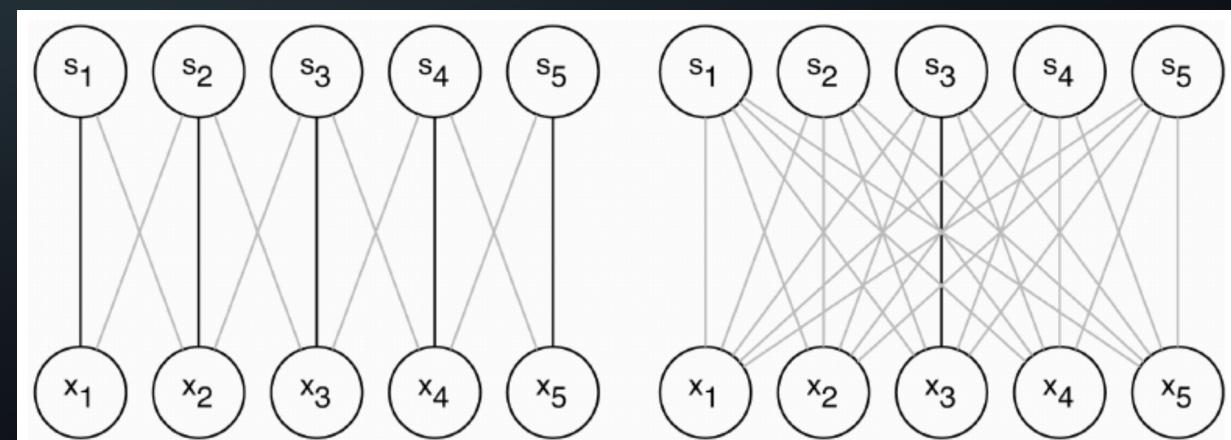
최대한 작은 complexity를 가지면서
우수한 filter를 표현하기 위해



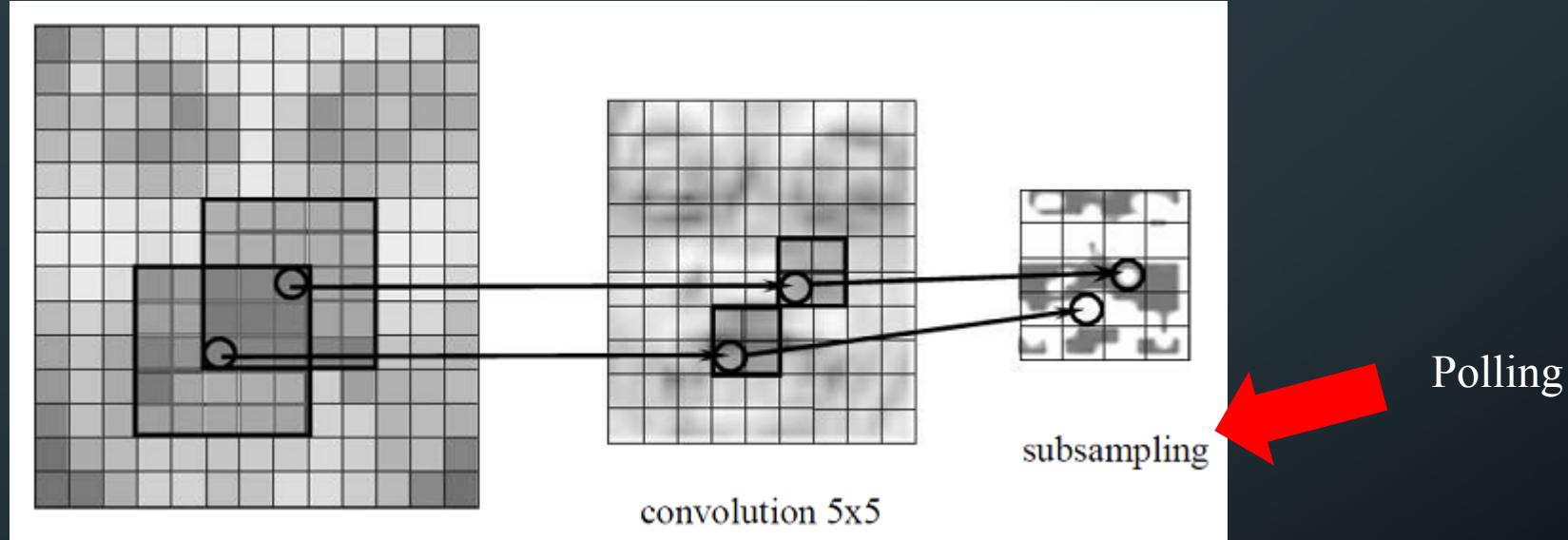
sparse weight



tied wieght

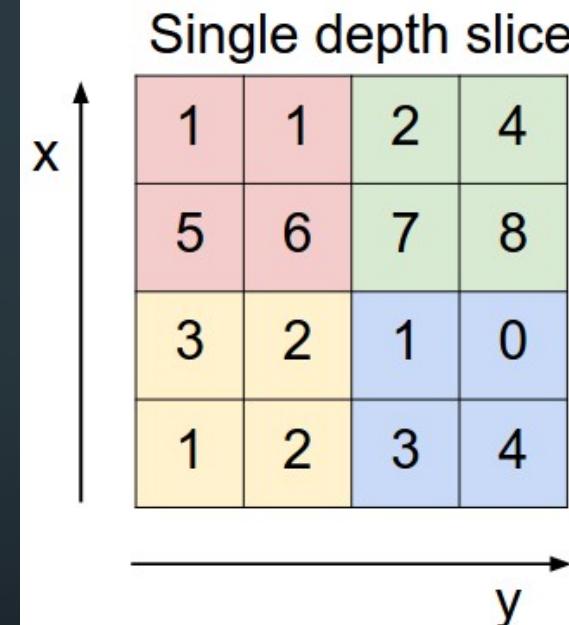
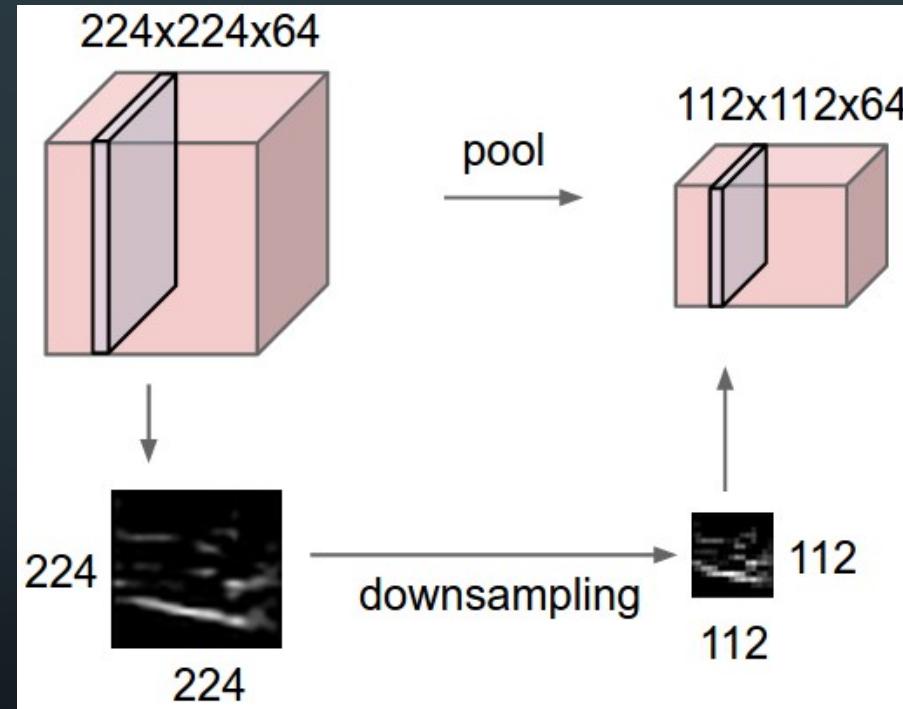


Pooling Layer



Convolution된 feature map은 서로 강하게 연결된 상태
서로 이웃해 있을수록 겹치는 영역이 많기 때문에 거의 비슷한 값을 가질 것이라고 예상

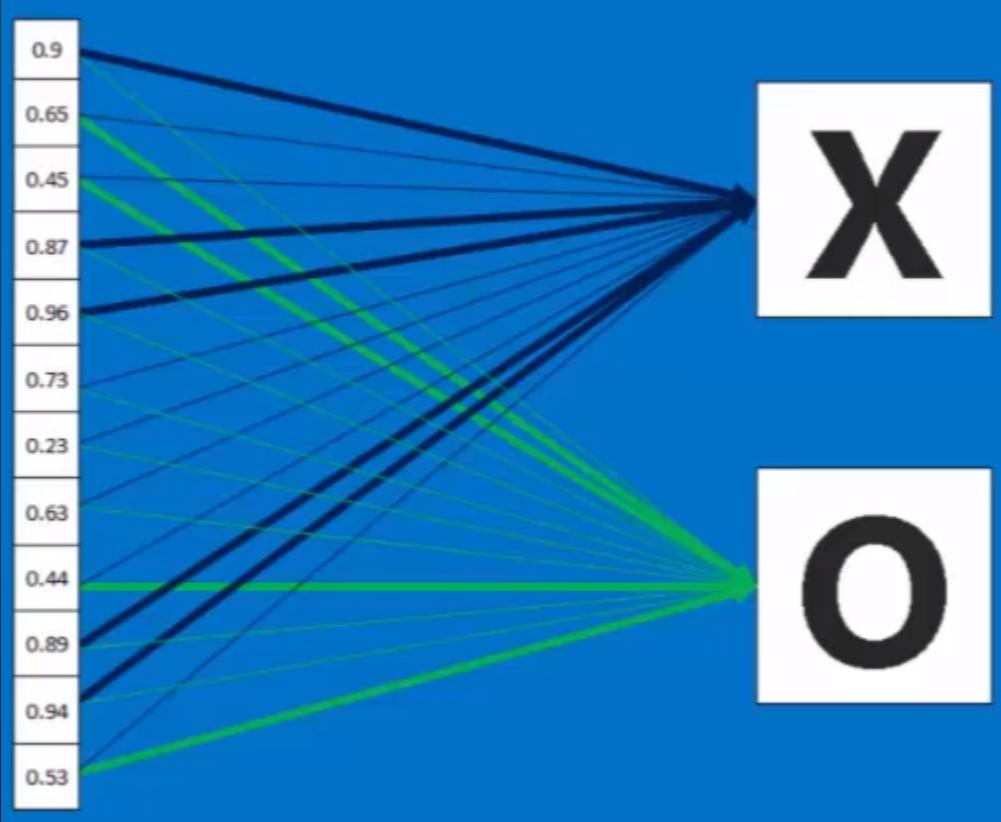
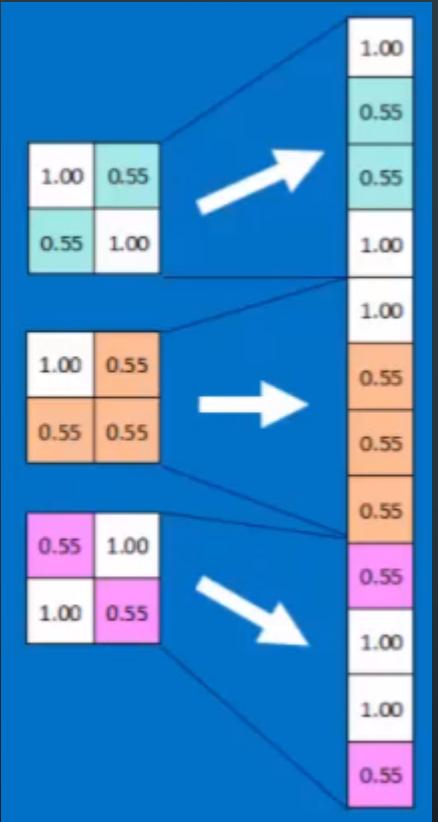
Pooling Layer



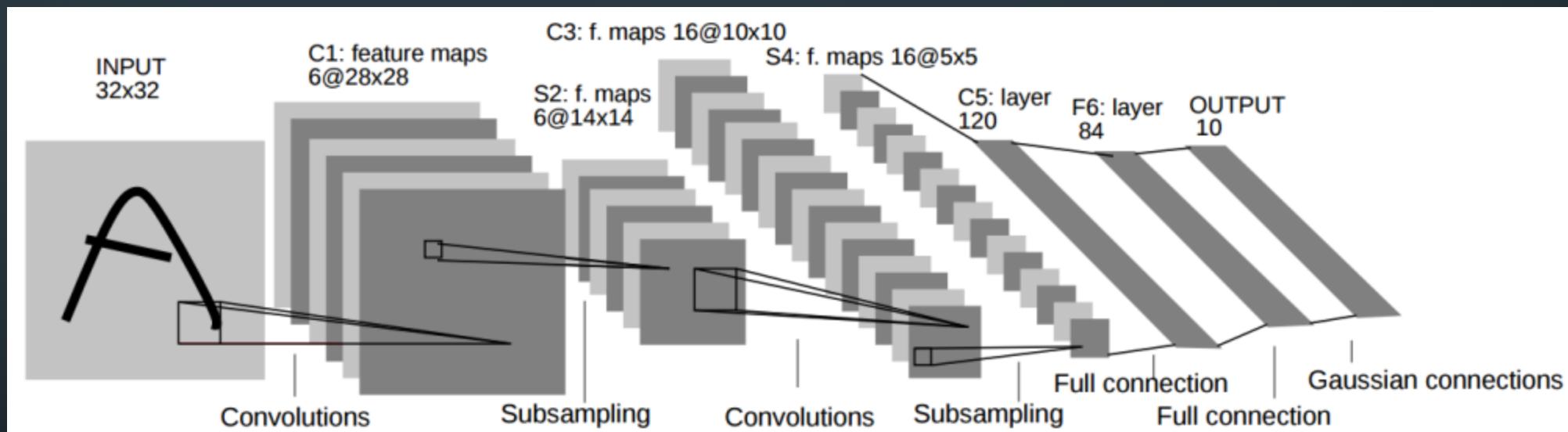
Input → Conv & Active & Pool



→ Fully connected layer

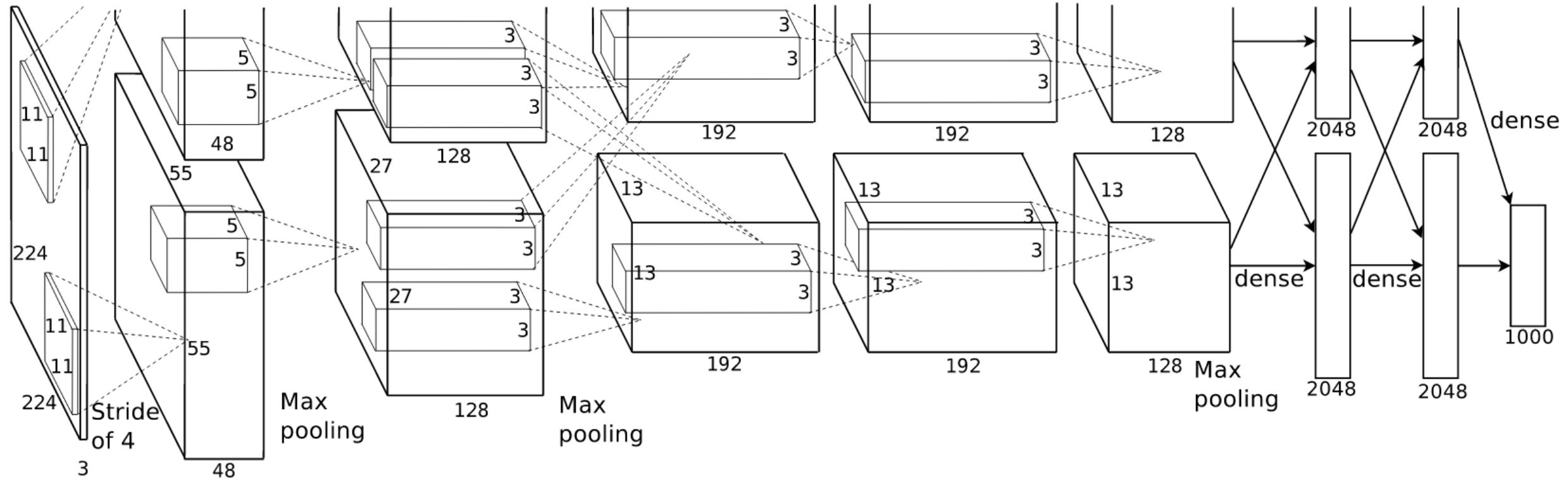


LeNet - Yann LeCun



시그모이드 함수, 서브샘플링(Average pooling)

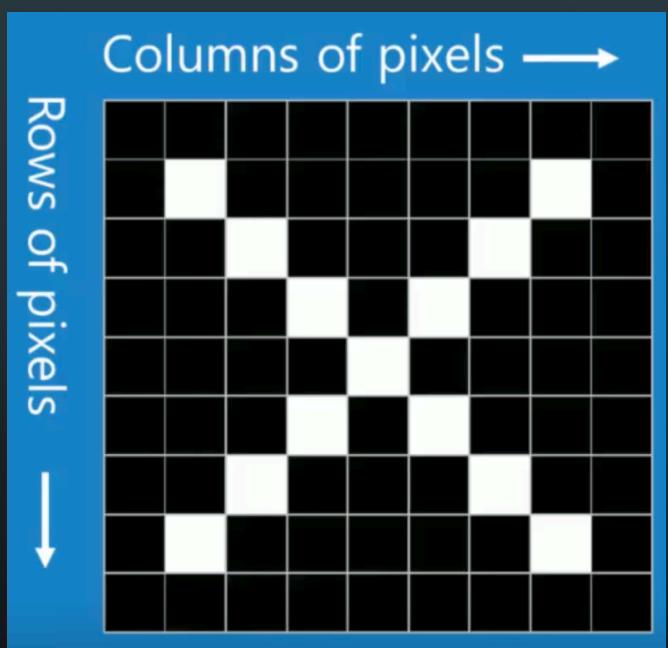
AlexNet - Alex Krizhevsky



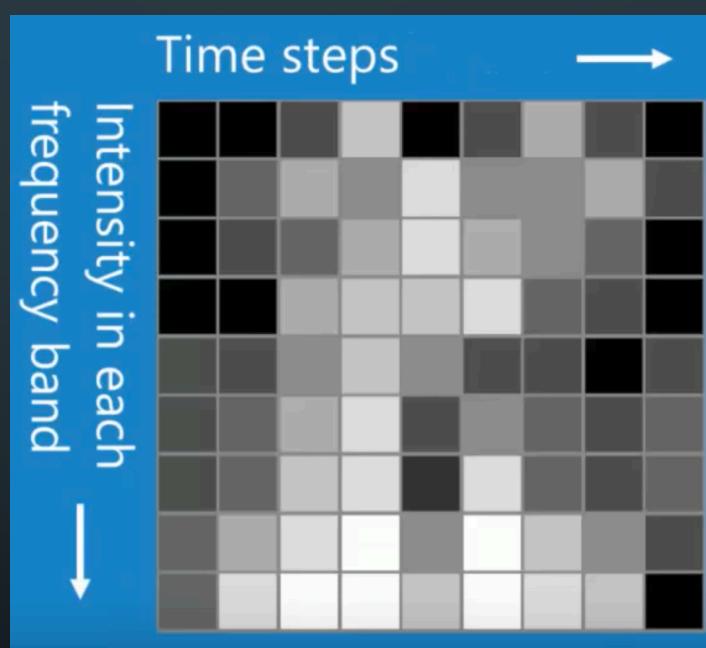
ReLU 함수, 정규화, 드롭아웃

CNN이 쓰이|는| 판야

Image



Sound



Text

