Advanced CNN

Advanced
CNN

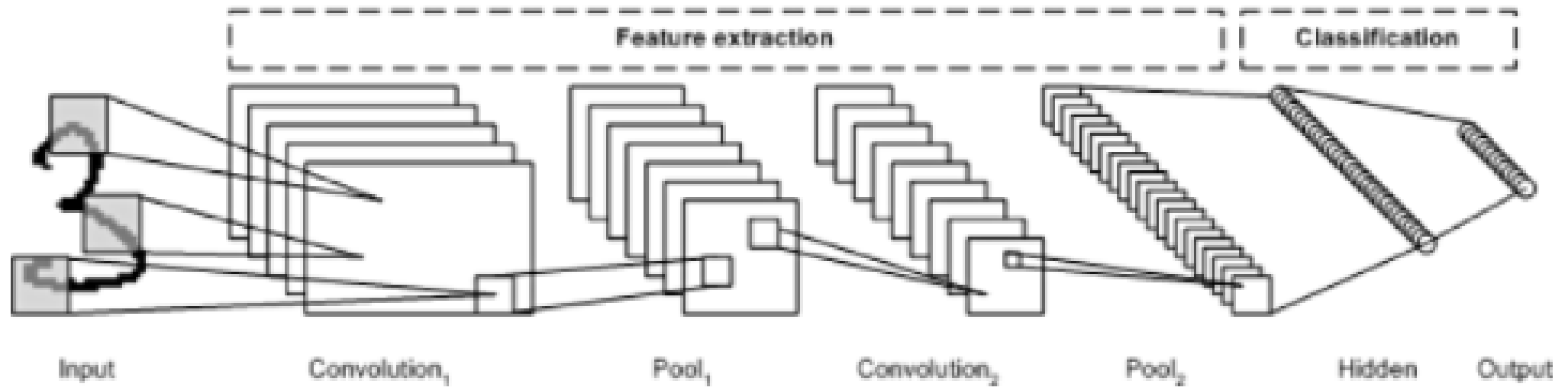Advaced CNN

ImageNet Challenge

Basic CNN

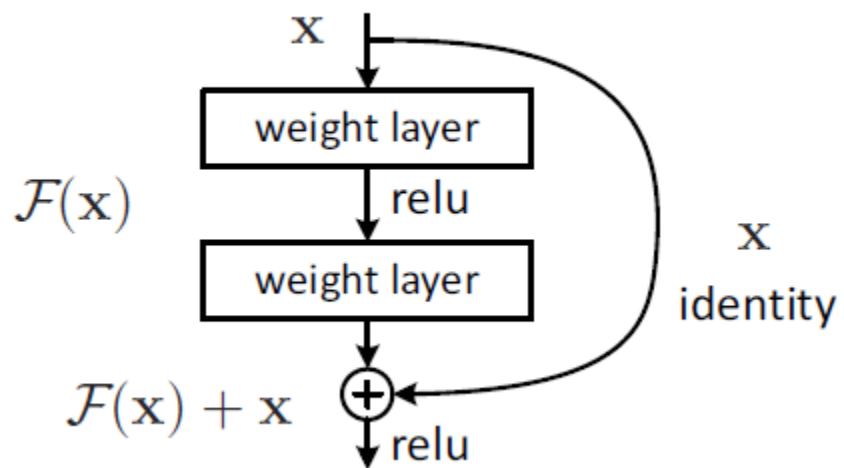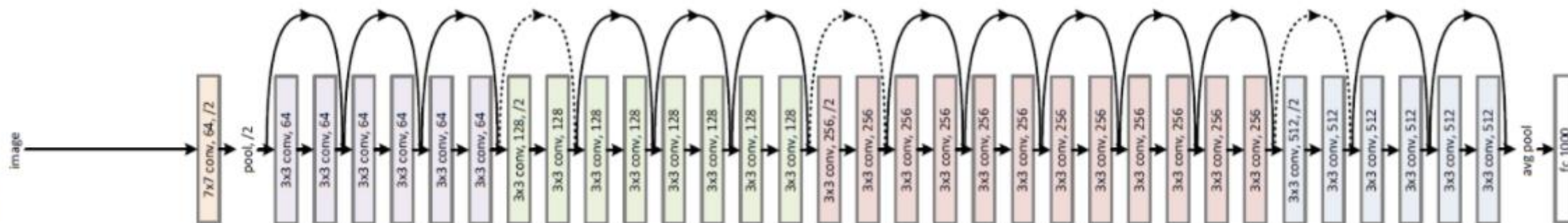Feature extraction   Classification

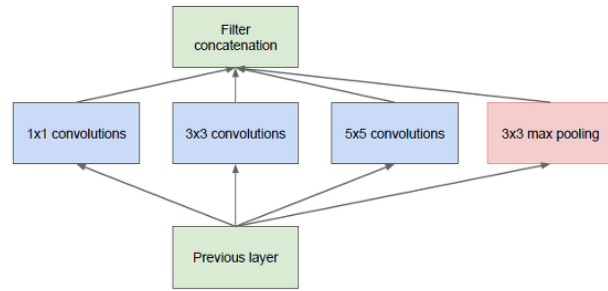Input   Convolution₁   Pool₁   Convolution₂   Pool₂   Hidden   Output

AlexNet

VGG

VGG16

VGG19
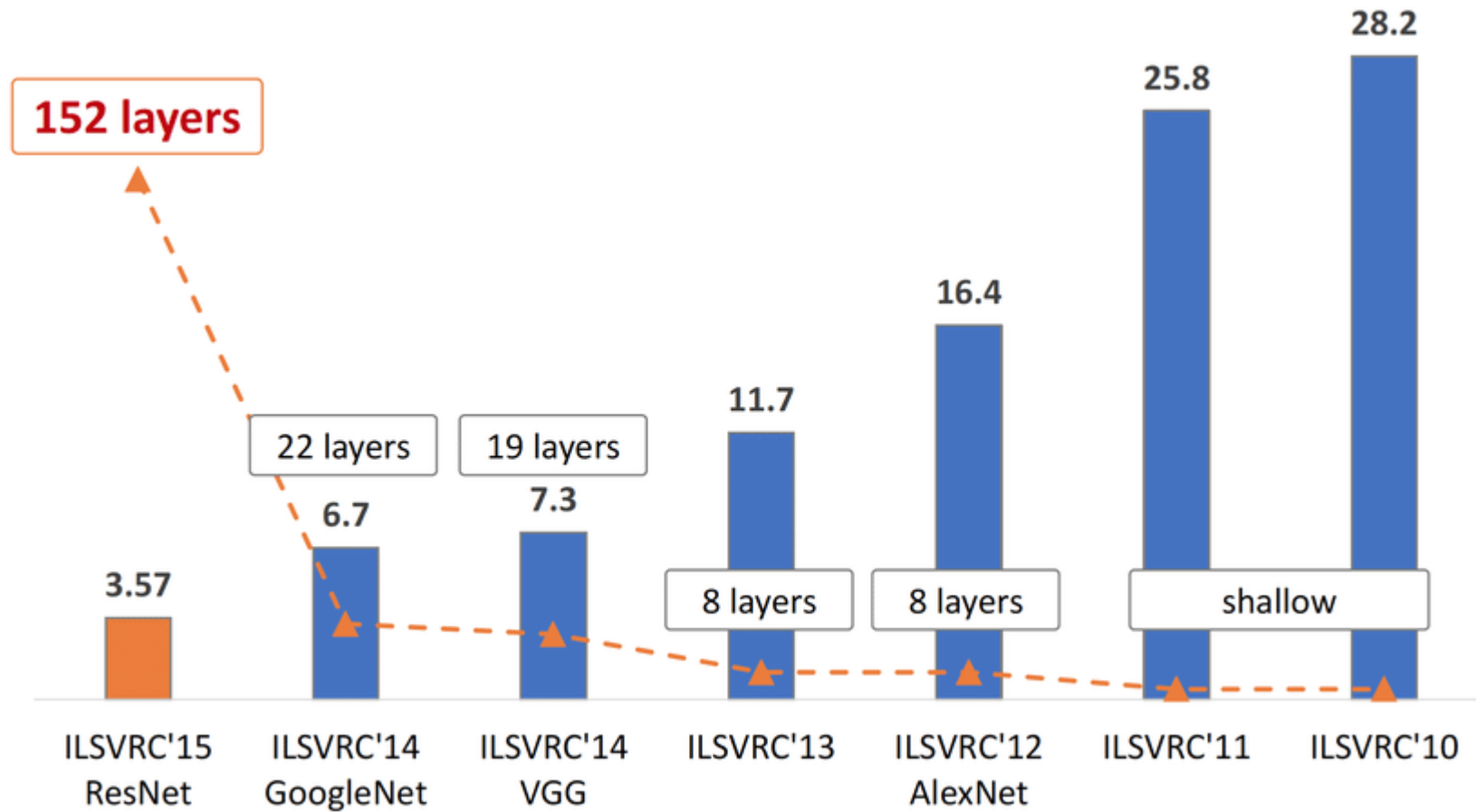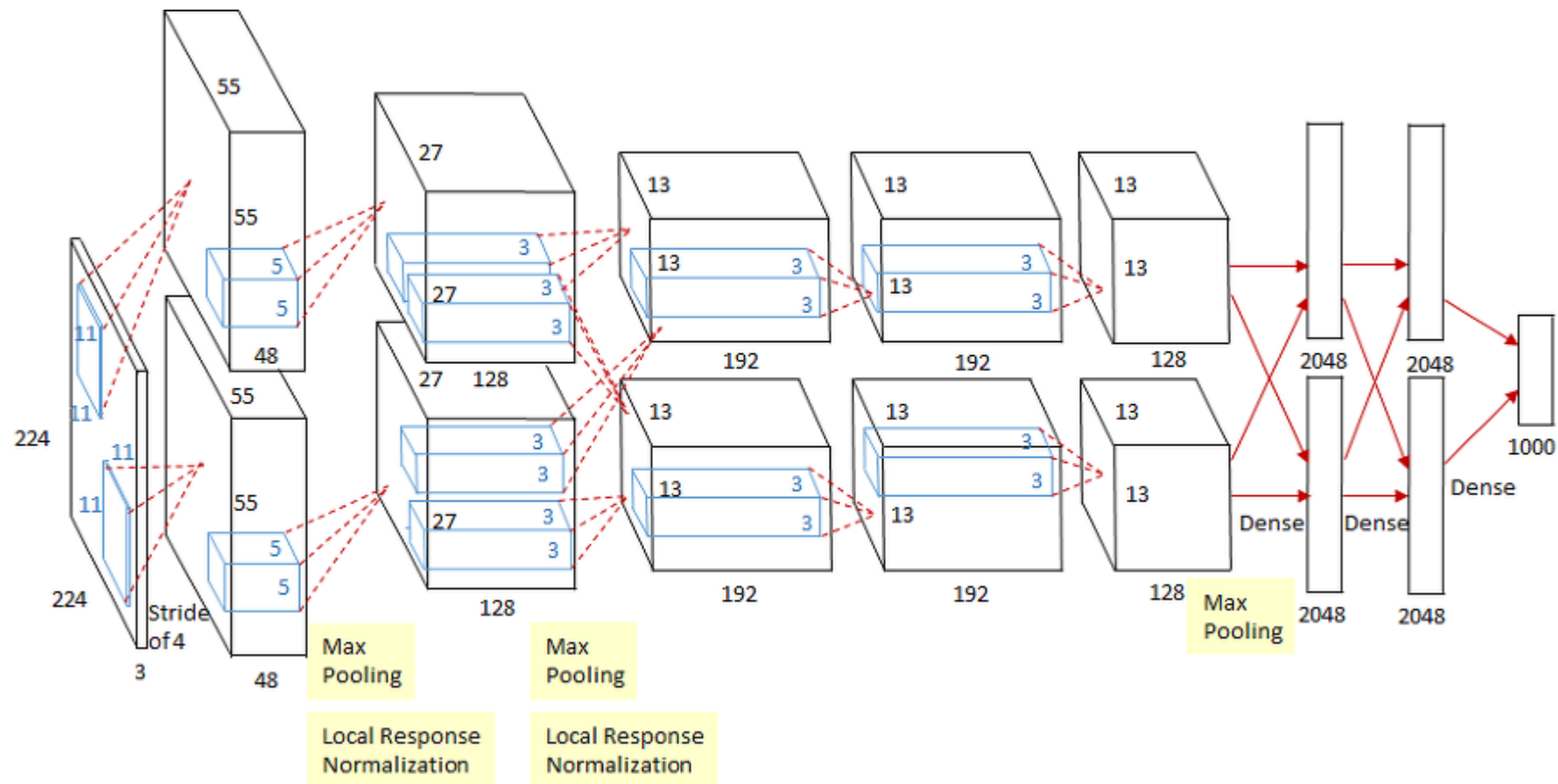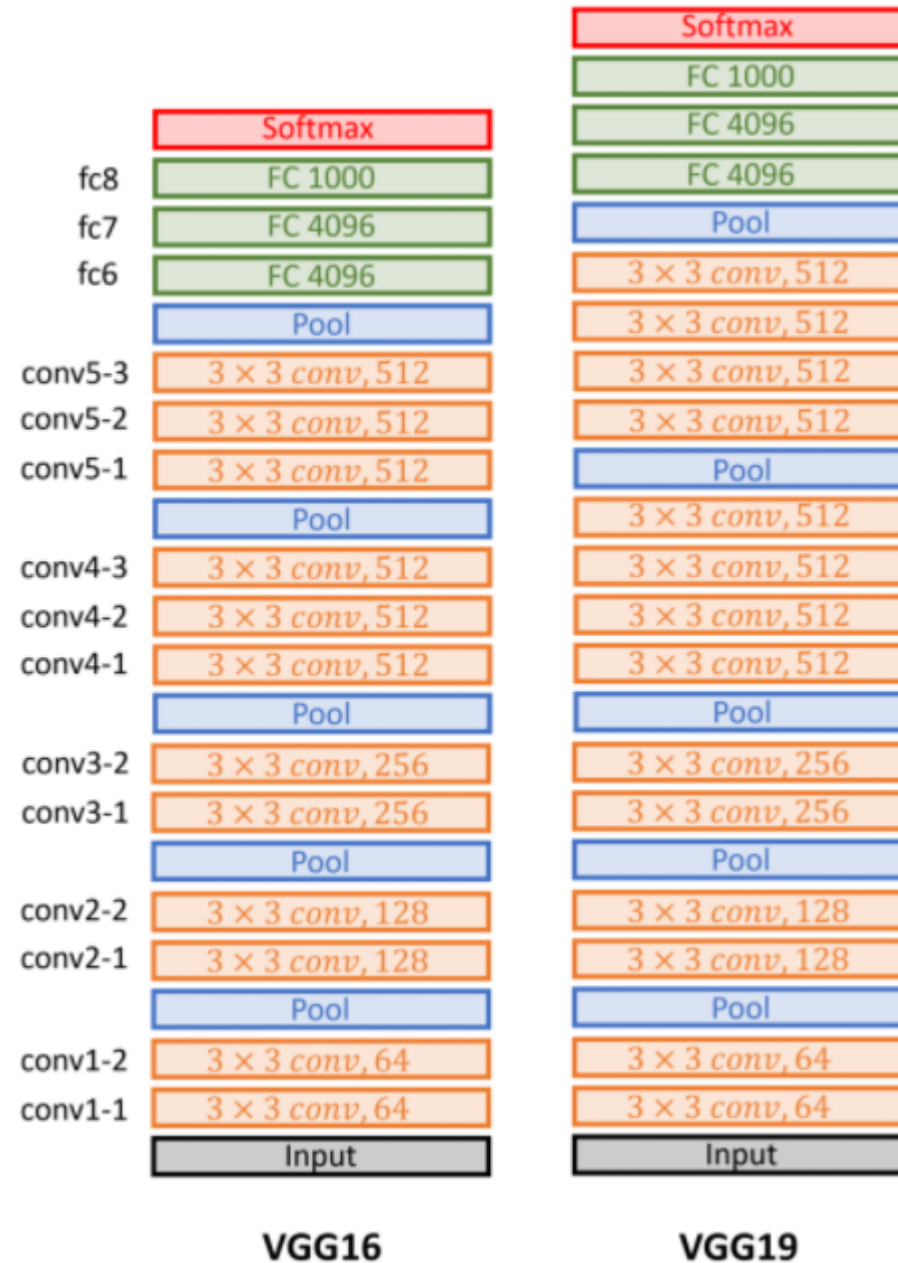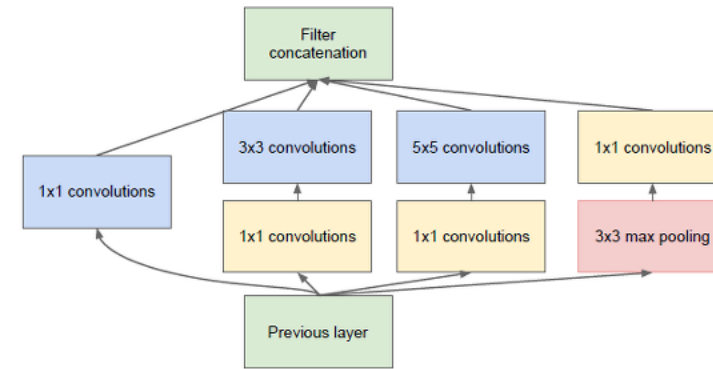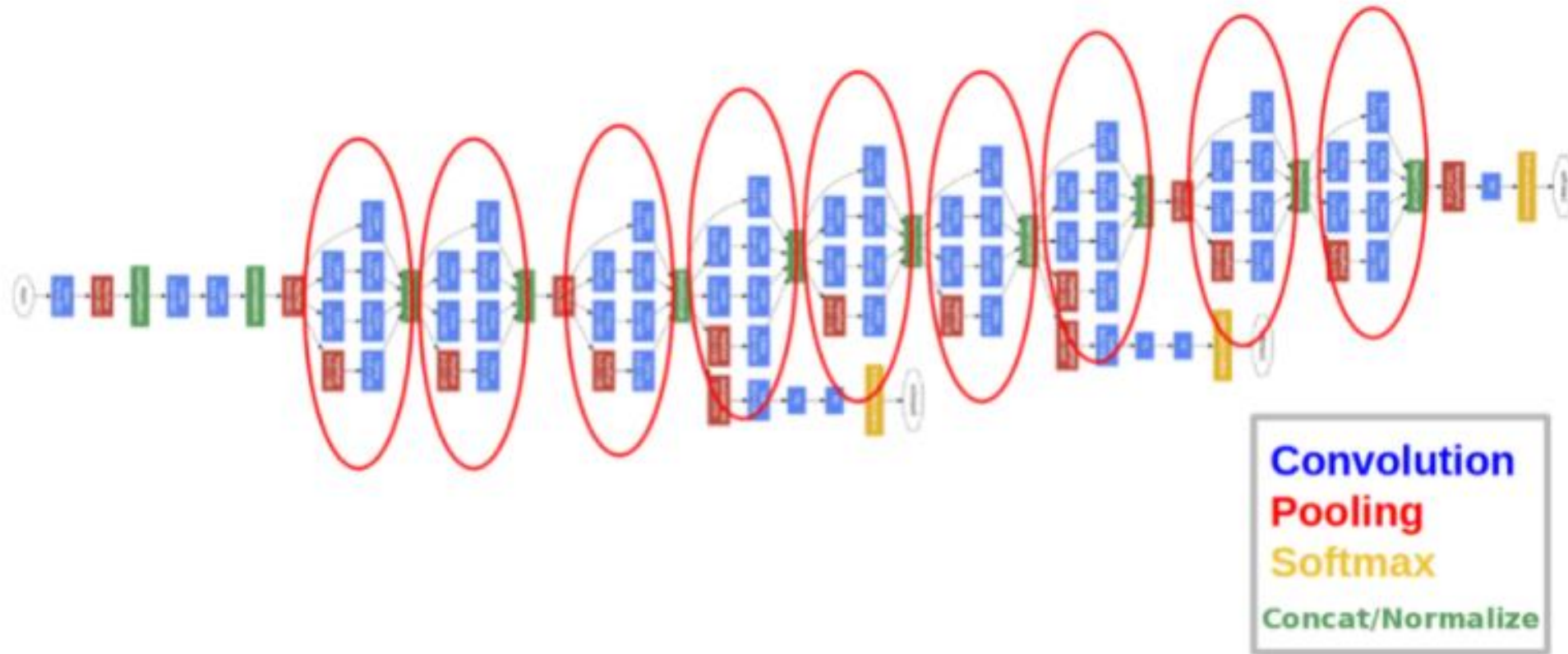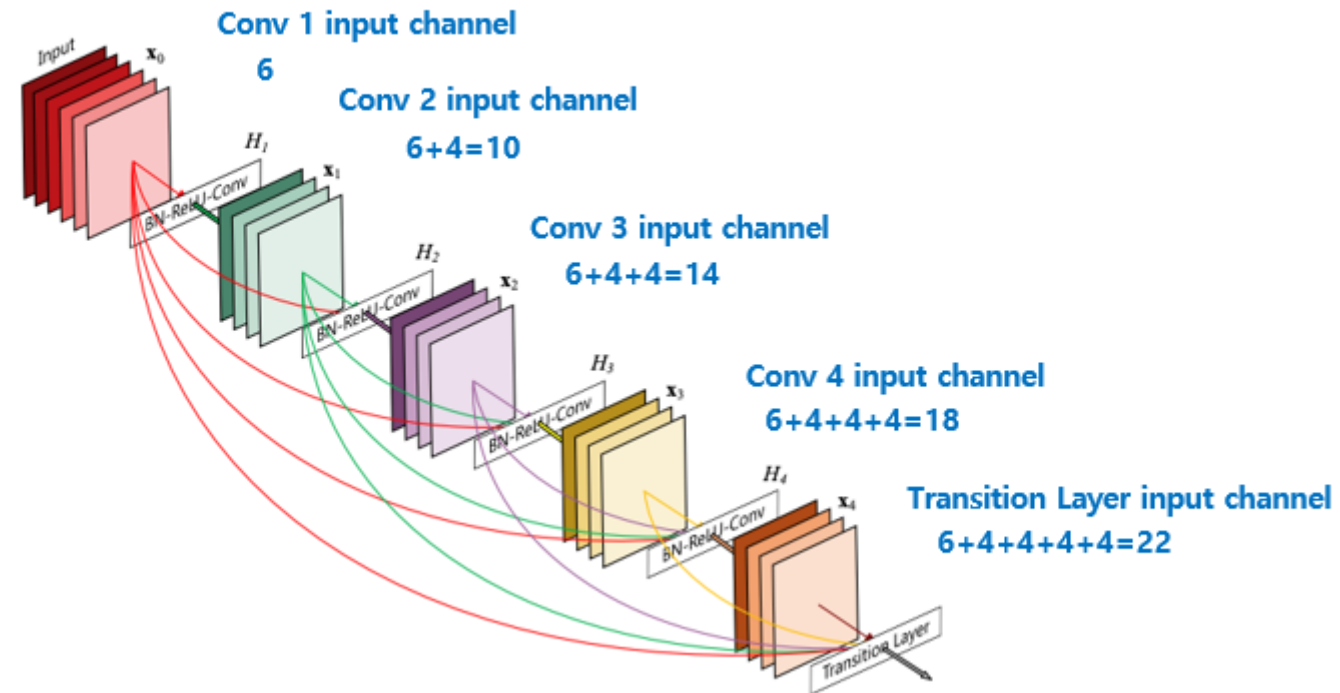
ResNet

GoogleNet

(a) Inception module, naïve version

(b) Inception module with dimensionality reduction

GoogleNet

Convolution
Pooling
Softmax
Concat/Normalize
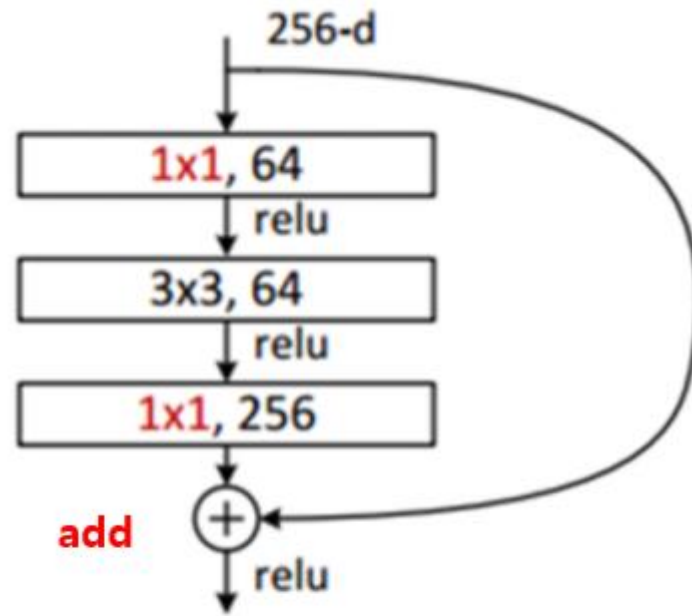
DenseNet

DenseNet

bottleneck
(for ResNet)
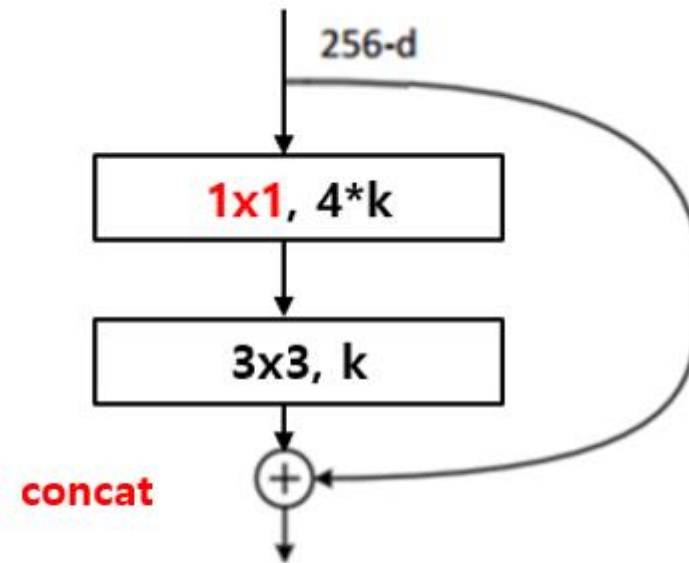
bottleneck
(for DenseNet)

DenseNet

(a) original   (b) BN after addition   (c) ReLU before addition   (d) ReLU-only pre-activation   (e) full pre-activation
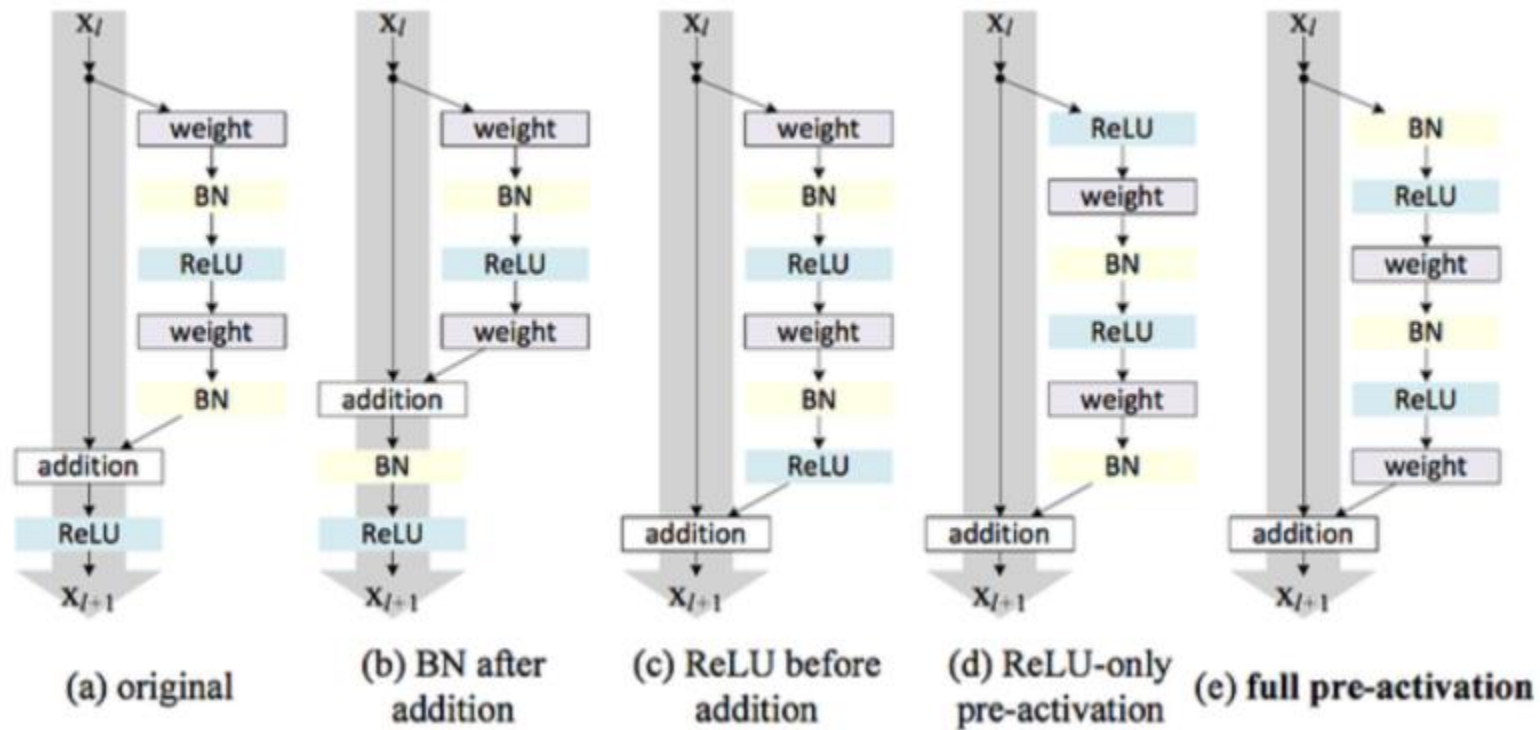
DenseNet Transition

BN

ReLU

1X1 Convolution

2X2 Average pooling

감사합니다
THANK YOU