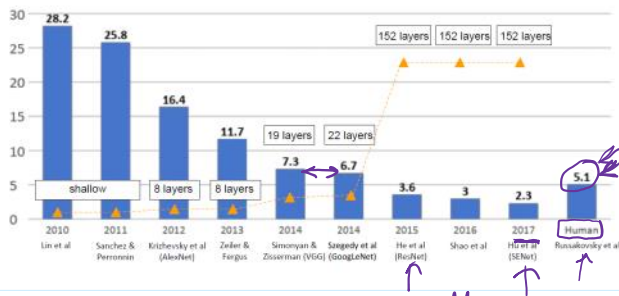


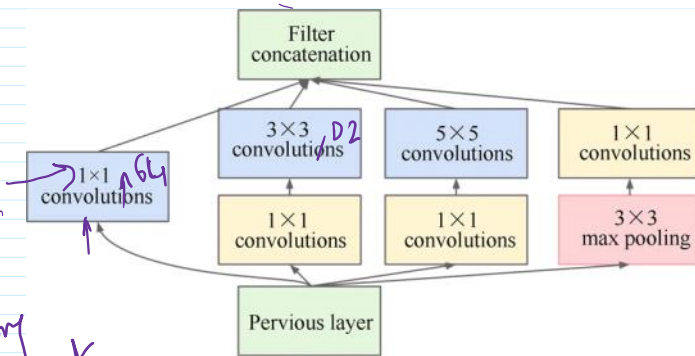
VGG:-

INPUT: [224x224x3] memory: 224\*224\*3=150K params: 0 (not counting biases)  
 CONV3-64: [224x224x64] memory: 224\*224\*64=3.2M params: (3\*3\*3)\*64 = 1,728  
 CONV3-64: [224x224x64] memory: 224\*224\*64=3.2M params: (3\*3\*3)\*64 = 36,864  
 POOL2: [112x112x64] memory: 56\*56\*64=800K params: 0  
 CONV3-128: [112x112x128] memory: 112\*112\*128=1.6M params: (3\*3\*3)\*128 = 73,728  
 CONV3-128: [112x112x128] memory: 112\*112\*128=1.6M params: (3\*3\*3)\*128 = 147,456  
 POOL2: [56x56x128] memory: 56\*56\*128=400K params: 0  
 CONV3-256: [56x56x256] memory: 56\*56\*256=800K params: (3\*3\*3)\*256 = 294,912  
 CONV3-256: [56x56x256] memory: 56\*56\*256=800K params: (3\*3\*3)\*256 = 589,824  
 CONV3-256: [56x56x256] memory: 56\*56\*256=800K params: (3\*3\*3)\*256 = 589,824  
 POOL2: [28x28x256] memory: 28\*28\*256=200K params: 0  
 CONV3-512: [28x28x512] memory: 28\*28\*512=400K params: (3\*3\*3)\*512 = 1,179,648  
 CONV3-512: [28x28x512] memory: 28\*28\*512=400K params: (3\*3\*3)\*512 = 2,359,296  
 CONV3-512: [28x28x512] memory: 28\*28\*512=400K params: (3\*3\*3)\*512 = 2,359,296  
 POOL2: [14x14x512] memory: 14\*14\*512=100K params: 0  
 CONV3-512: [14x14x512] memory: 14\*14\*512=100K params: (3\*3\*3)\*512 = 2,359,296  
 CONV3-512: [14x14x512] memory: 14\*14\*512=100K params: (3\*3\*3)\*512 = 2,359,296  
 CONV3-512: [14x14x512] memory: 14\*14\*512=100K params: (3\*3\*3)\*512 = 2,359,296  
 POOL2: [7x7x512] memory: 7\*7\*512=25K params: 0  
 FC: [1x1x4096] memory: 4096 params: 7\*7\*512\*4096 = 102,760,448  
 FC: [1x1x4096] memory: 4096 params: 4096\*4096 = 16,777,216  
 FC: [1x1x1000] memory: 1000 params: 4096\*1000 = 4,096,000  
**TOTAL memory: 24M \* 4 bytes ~ 96MB / image (only forward! ~\*2 for bwd)**  
**TOTAL params: 138M parameters**

GoogleNet / InceptionNet :- (focus computational efficiency)



⇒ use of multiple filters in parallel.

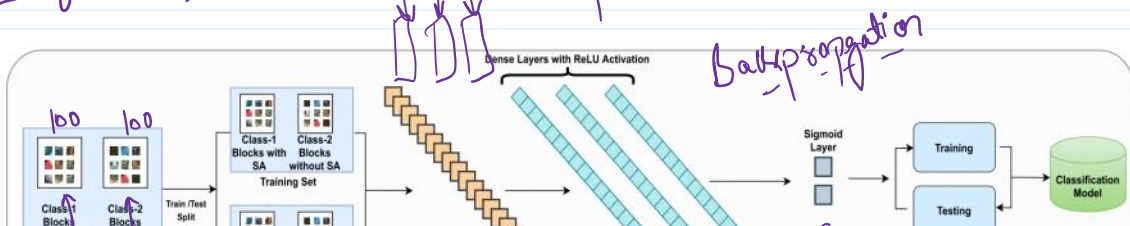
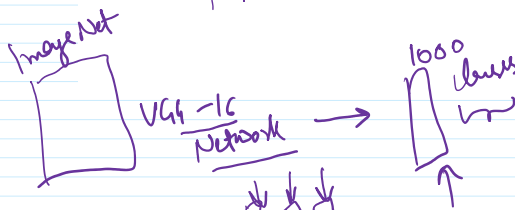


Acts along the different depth

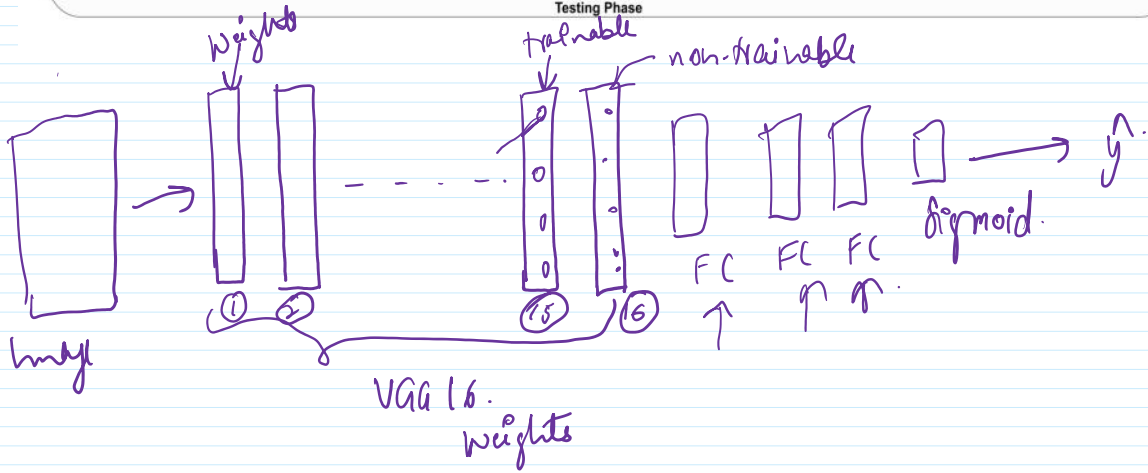
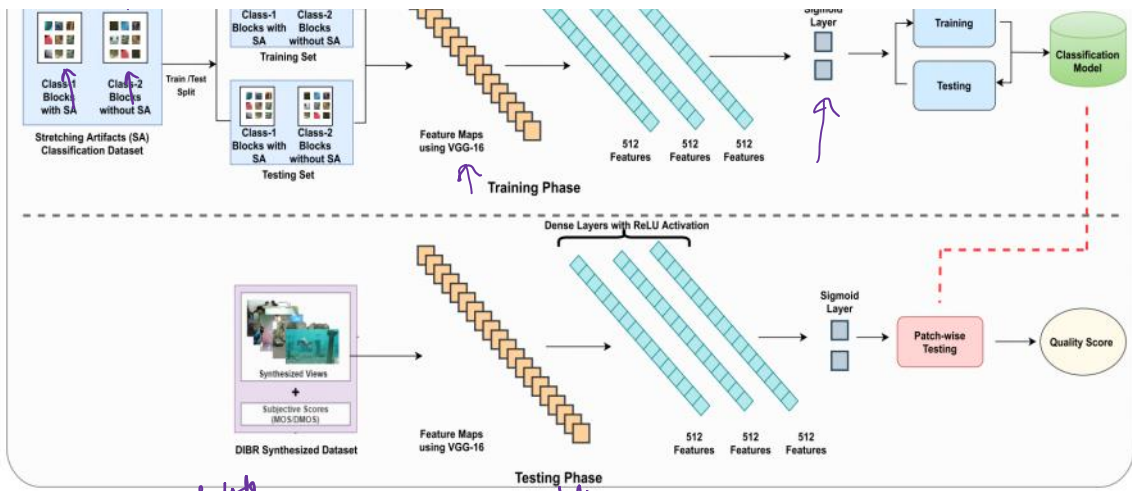
→ 28 Layers  
 → Inception module  
 → Only 5million parameters! 5m  
 12x less than AlexNet



Transfer Learning :-



Backpropagation



ResNet :- Residual Network.

