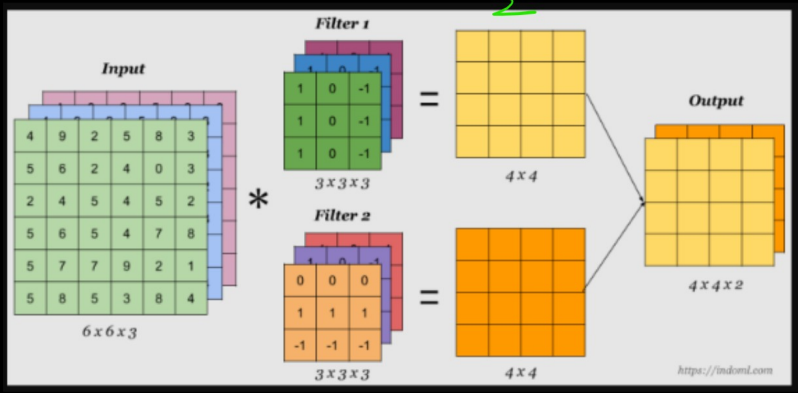
Agenda

1. Pooling Layer in CNN
2. Different CNN Architecture: LENET-5, ALEXNET

100
3
2

10
FM
3
2



→ Pooling in CNN

The problem with convolution

1. Memory issue
2. Translation variance

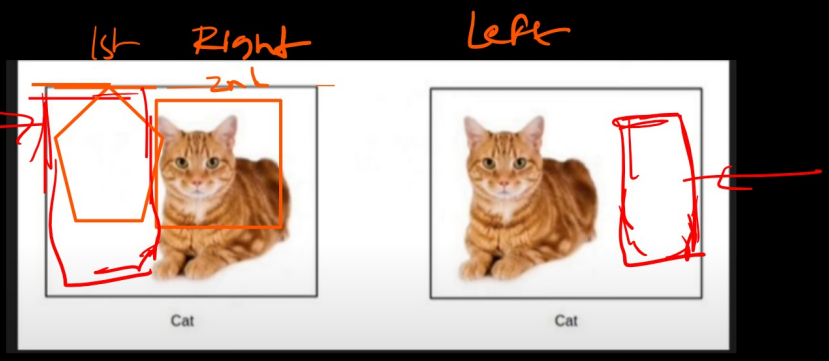
(3×3)

228 × 228 × 3

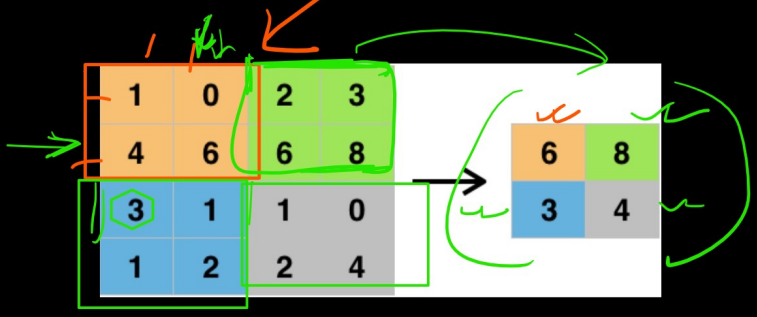
(100 - filters) ⇒

⇒ (226 × 226 × 3) × 100 * 32 ⇒ 19 MB

100 ⇒ 1.5 GB



pooling does downsampling



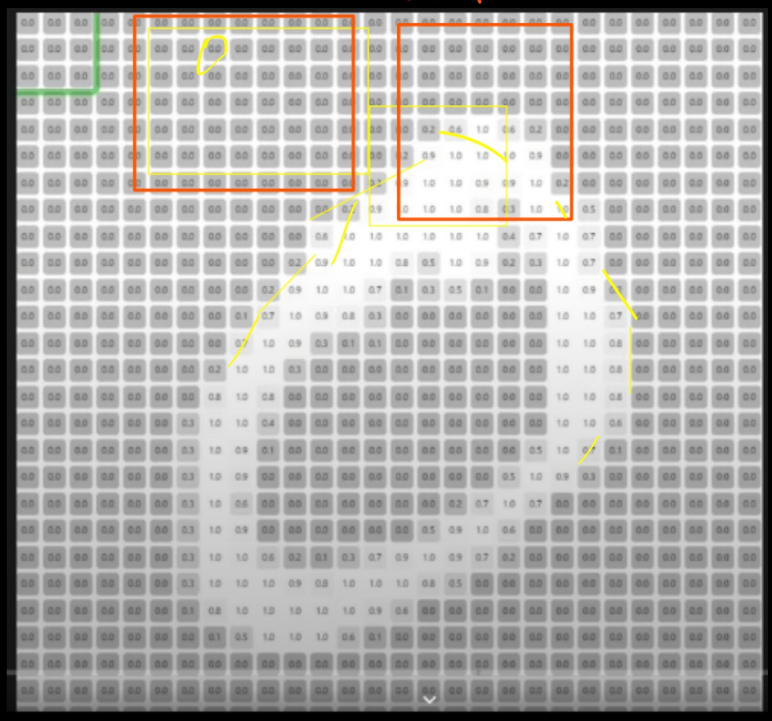
Pooling Types:

- max pooling
- Avg pooling
- Global pooling
  - Global max
  - Global avg pooling
- min pool

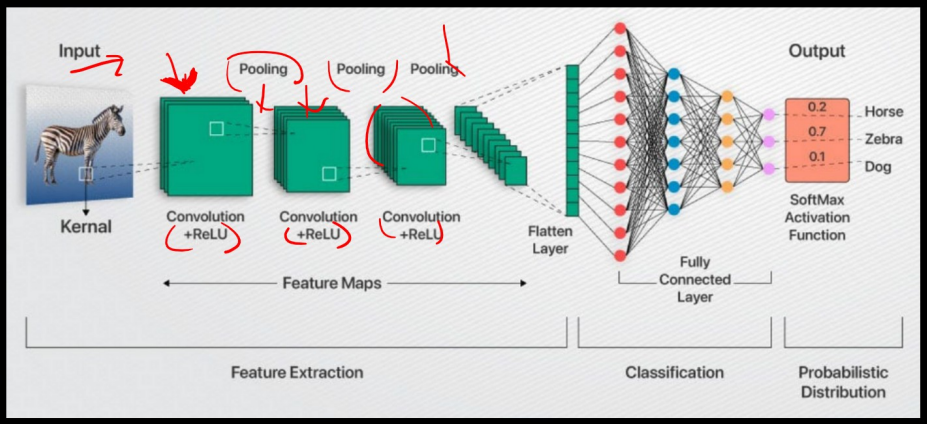
Size = (2,2)

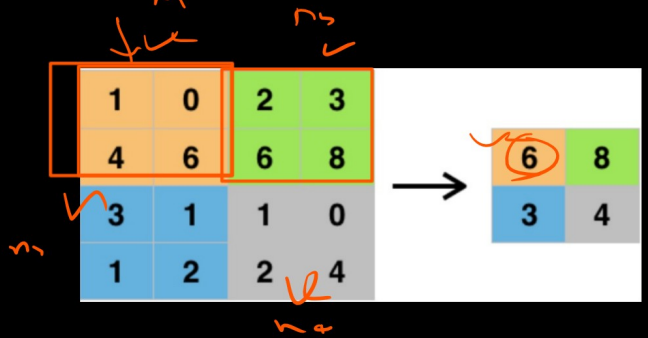
Stride = 2

Type = max



pooling → conv

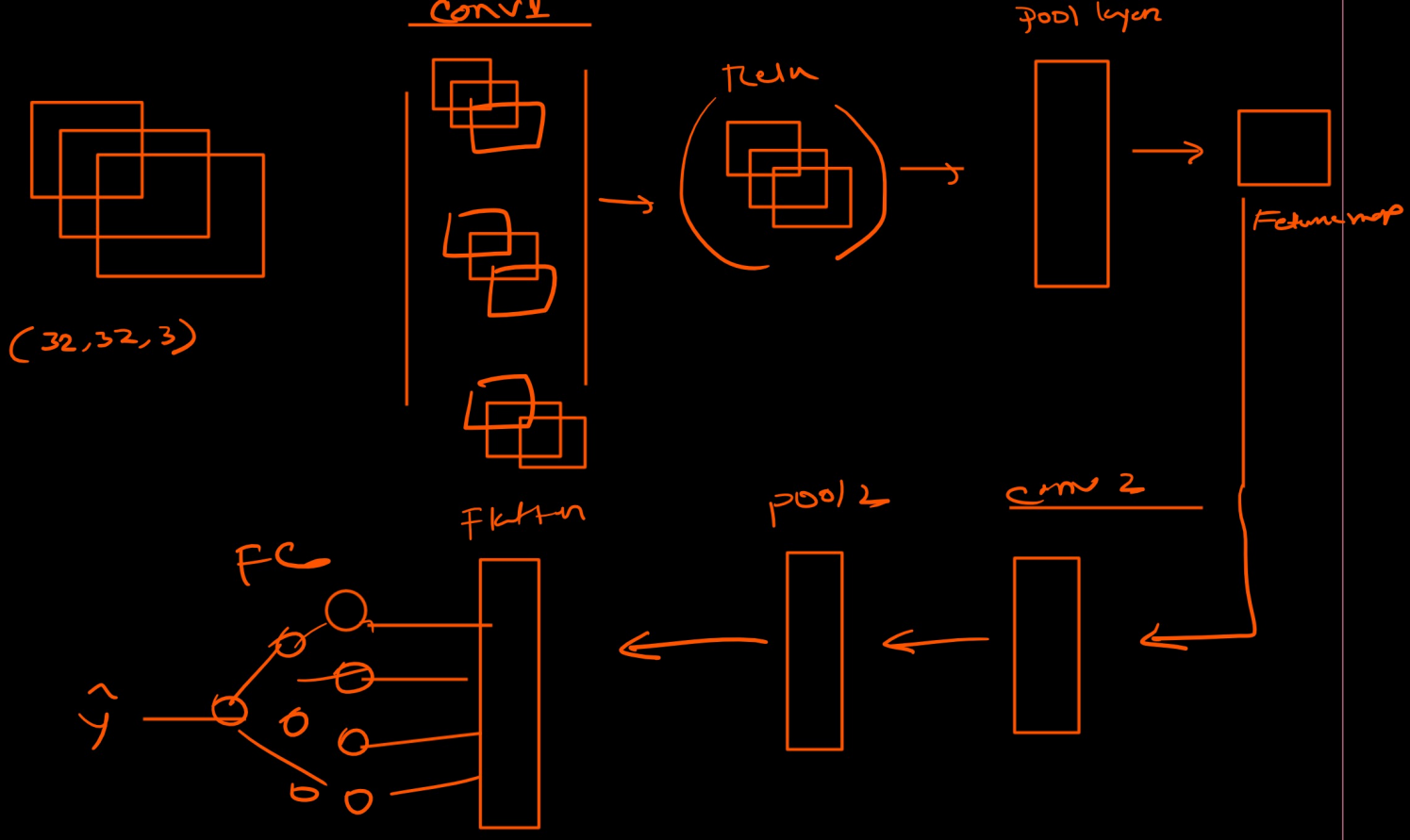


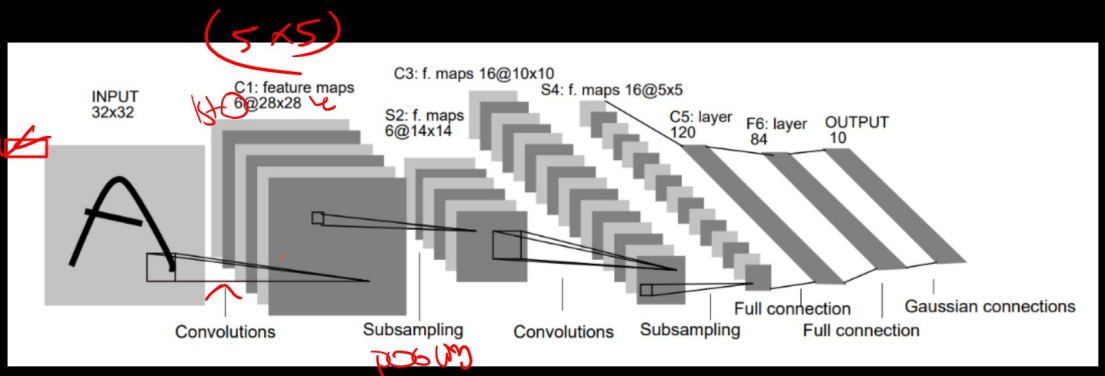


1. max pooling
2. avg pooling
3. global pooling

global max

global avg pooling





Avg pool

ImageNet