• Convolutional Neural Network.

- Convolution Layer : filter 합성곱

input ⟶ (filter, same depth) ⟶ activation maps

추가) filter : N×N×(input channel) 개수

(filter개수가 activation map depth 결정
(((N + 2×P − F)/stride + 1) 크기의 output

- Fully Connected Layer

1 number : the result of taking a dot product btw a row of W and input

- Polling Layer

make the representations smaller and more manageable

Max Pooling.

→ Typical Architecture

[(CONV − RELU) * N − POOL]* M − (FC − RELU)* K , SOFTMAX

[(CONV − RELU) * N − POOL]* M : 처리 + 더 깊게

(FC − RELU)* K : 앞내용 처리

SOFTMAX : 결과물

- CNN Architectures

  - VGGNet : Small filters, Deeper Networks
  - GoogLeNet: Deeper Networks, with computational efficiency.
    - ↳ Inception Module: 7*7 convolution layer → filter concatenation
      + 1x1 conv "bottleneck" layers:
  - ResNet : very deep networks using residual connections
    - ↳ Residual Block. $H(x) = F(x) + x$