

Agenda

1) Receptive Field

- Local
- Global

2) Parameter Calculation

RGB
(32, 32, 3)

{ Kernel Size
Padding
Stride
Bias }

(28, 28, 1)

$$= ((m \times n \times d) + 1) \times K$$
$$= ((3 \times 3 \times 1) + 1) \times 32$$

$$= ((\underbrace{m}_{\text{width}} \times \underbrace{n}_{\text{height}}) \times \underbrace{d}_{\text{channels from previous layer}} + 1) \times \underbrace{K}_{\text{current no of filters using}} = 10 \times 32 = 320$$

$$((3 \times 3 \times 32) + 1) \times 64$$
$$= ((9 \times 32) + 1) \times 64$$
$$= 289 \times 64 = 18496$$

$$(3136 \times 64) + 64$$
$$= 200704 + 64$$
$$= 200768$$

100%
80%

3-4

70%

30%

Affect My Neighbourhood

5x5

195
120

191	0	22		
11	195			
	13			

Lateral Inhibition

More Activity in a certain region please induce your neighbours.

Within a channel

Intra Channel

Inter Channel

Receptive Field

RF = atleast close to the input image resolution

Image Size

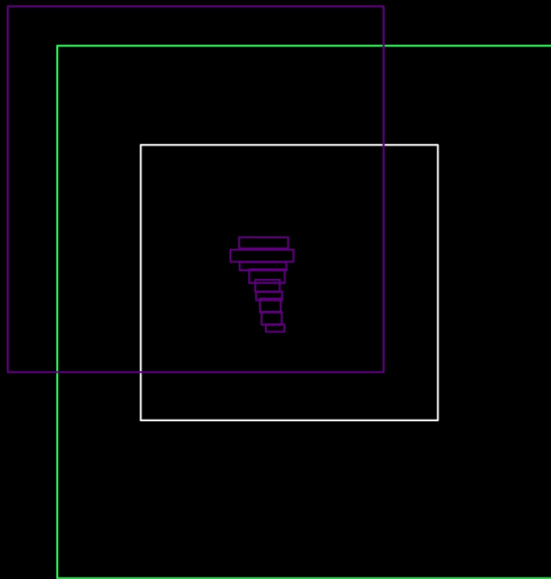
300 x 300

RF

290/280 | 270

RF

400, 500, 800



0,

1

Conv1

LRN

Relu

Conv2

Conv1

Relu

LRN