CNN Math Model

feature maps

input image

$M_n = f(I_n; \phi_1, \ldots \phi_K)$

I_n

layer 1 filters

feature maps

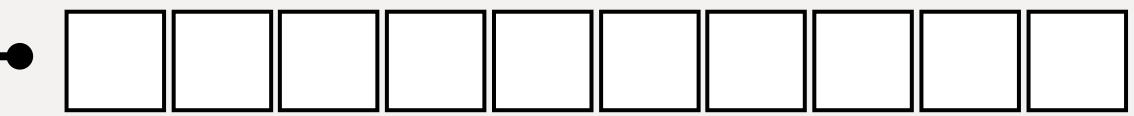input image
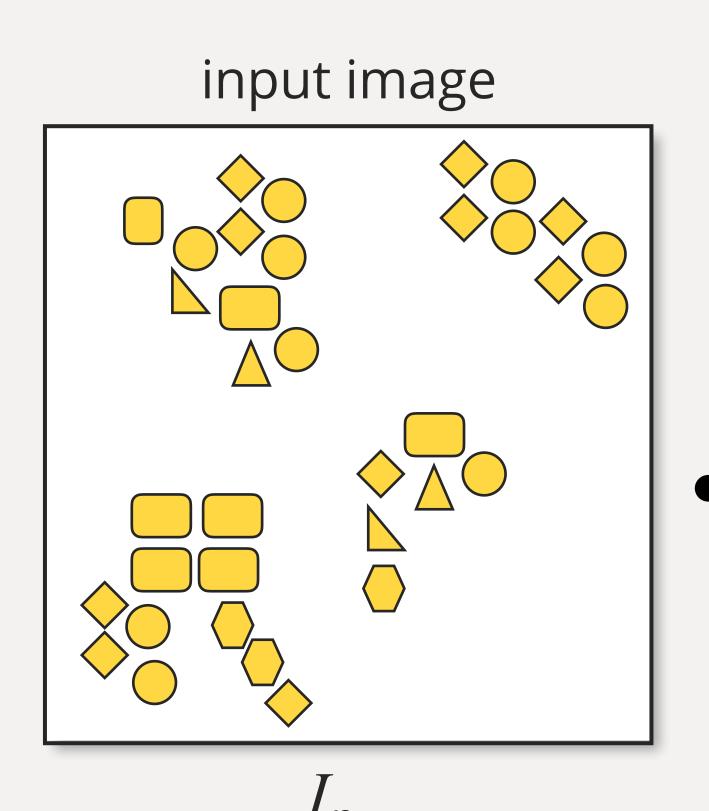
$M_n = f(I_n; \phi_1, \ldots \phi_K)$

n^{th} image

I_n

layer 1 filters

feature maps
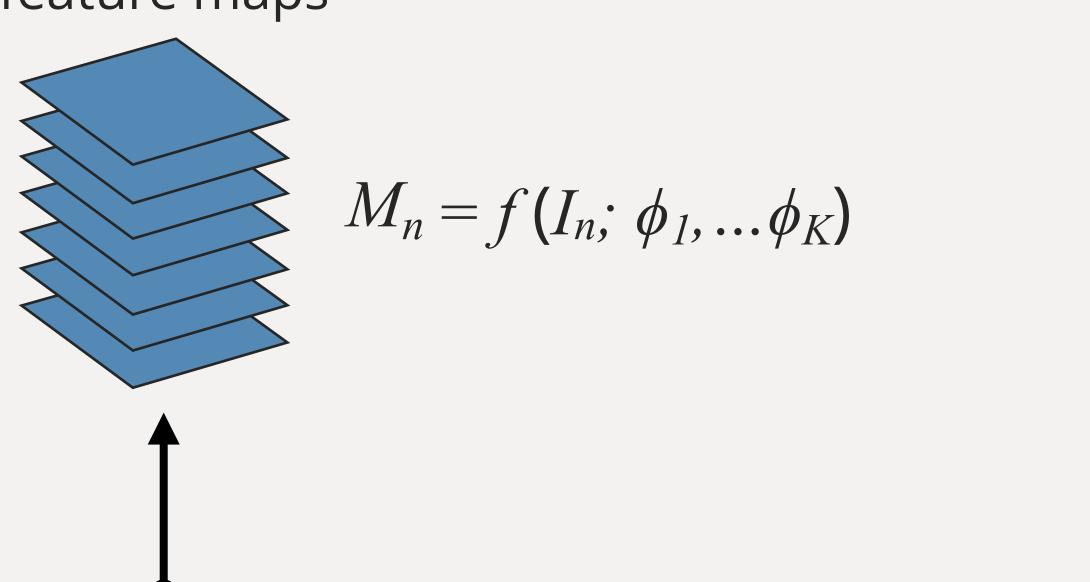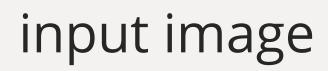
$$M_n = f(I_n;\ \phi_1, ... \phi_K)$$

input image

I_n

layer 1 filters
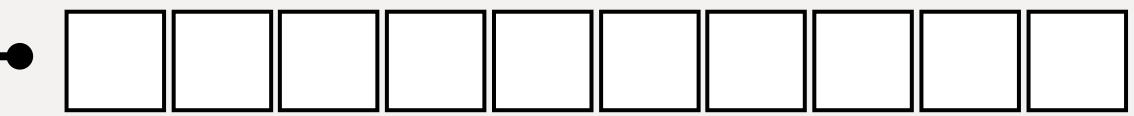
feature maps

$$M_n = f(I_n; \phi_1, \dots \phi_K)$$

input image

I_n

ϕ_1

layer 1 filters

feature maps

input image

$$M_n = f(I_n; \phi_1, \ldots \phi_K)$$

ϕ_1 ϕ_2

layer 1 filters

I_n

feature maps

$$M_n = f(I_n; \phi_1, \dots \phi_K)$$

input image

ϕ_1 ϕ_2 ϕ_K
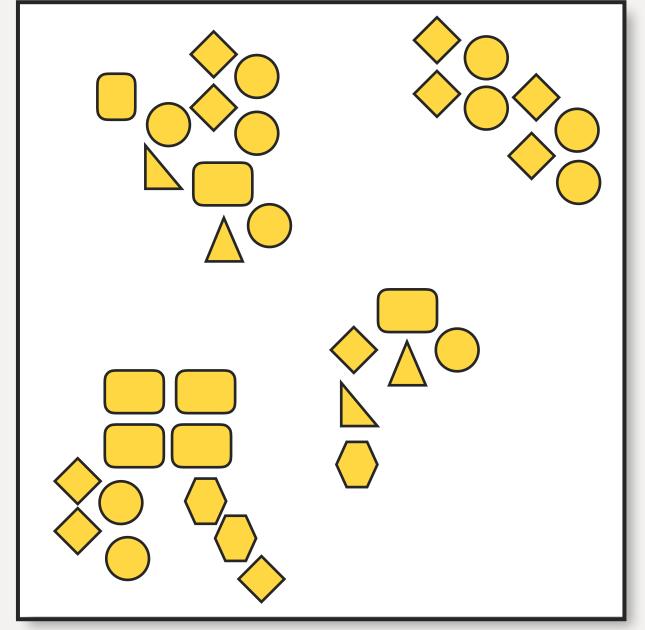
layer 1 filters

I_n

layer 2
feature maps

$$L_n = f(M_n; \Psi_1, \dots \Psi_K)$$

Ψ_1 Ψ_2 Ψ_K

layer 2 filters

input image

layer 1
feature maps

$$M_n = f(I_n; \phi_1, \dots \phi_K)$$

I_n

ϕ_1 ϕ_2 ϕ_K

layer 1 filters