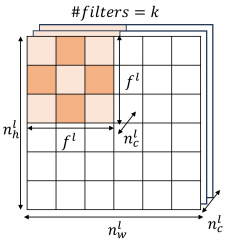
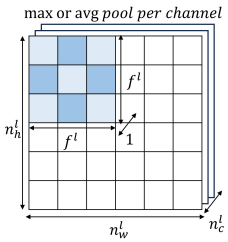
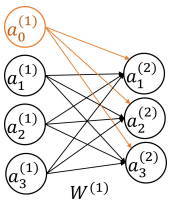
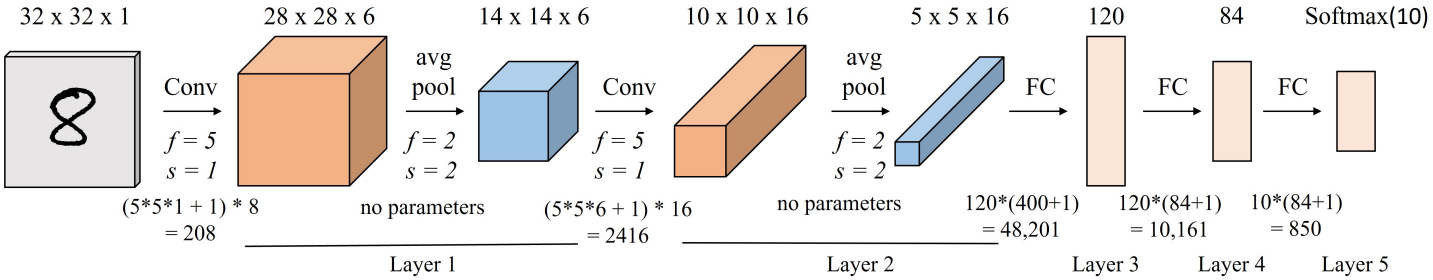
Convolutional Neural Network - Part 2

	Conv Layer	Pooling Layer	FC Layer
			
Input size	$n_h^l \times n_w^l \times n_c^l$	$n_h^l \times n_w^l \times n_c^l$	N_{in}
Output size	$n_h^{l+1} \times n_w^{l+1} \times k$	$n_h^{l+1} \times n_w^{l+1} \times n_c^l$	N_{out}
# parameters	$(f^l \times f^l \times n_c^l + 1) \times k$	No parameters	$N_{out} \times (N_{in} + 1)$

LeNet-5 Example:

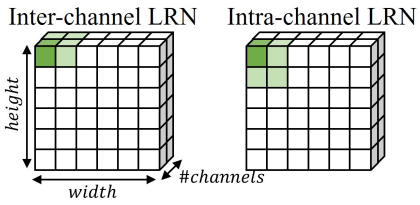
LeNet is a convolutional neural network structure proposed by LeCun et al. in 1998. It is a very first convolutional neural network.

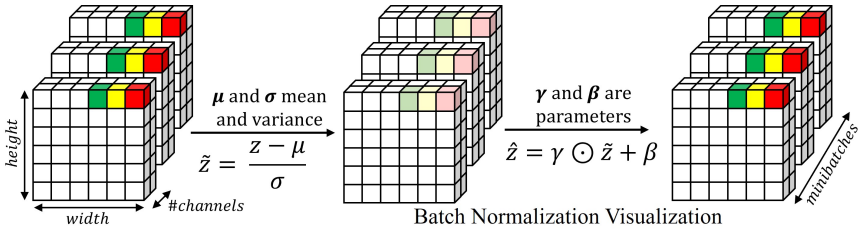


Normalization:

Local Response Normalization (LRN) is a non-trainable layer that square-normalizes the values in a feature map within a local neighborhood. LRN is based lateral inhibition concept which is the capacity of an excited neuron to reduce the activity of its neighbors.

Batch Normalization (BN) is a trainable layer used to address the problem of Internal Covariate Shift (ICF). ICF can be defined as the change in the distribution of network activations due to the change in network parameters during the training link.





Batch Normalization Visualization

Activation Functions: