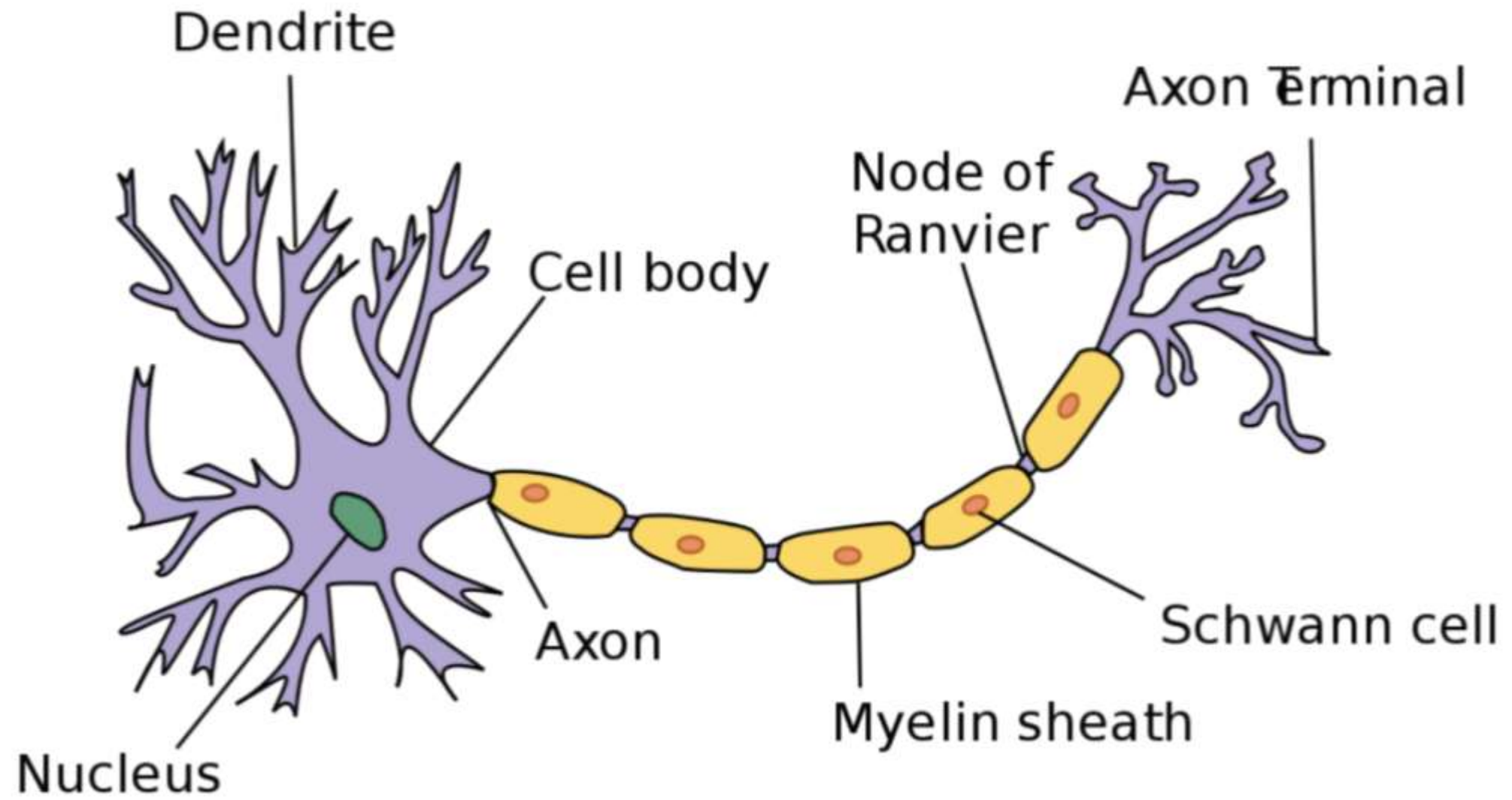
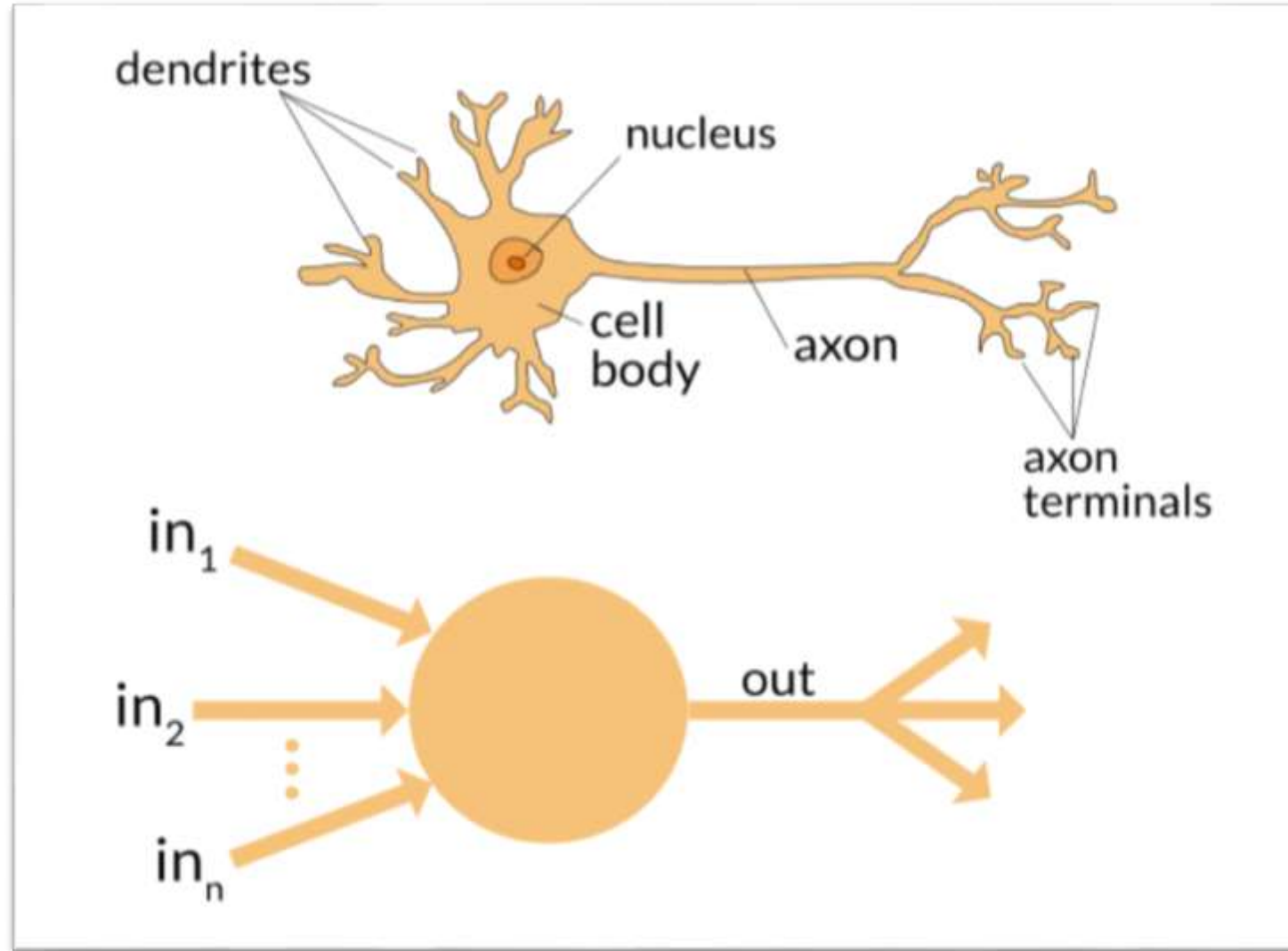
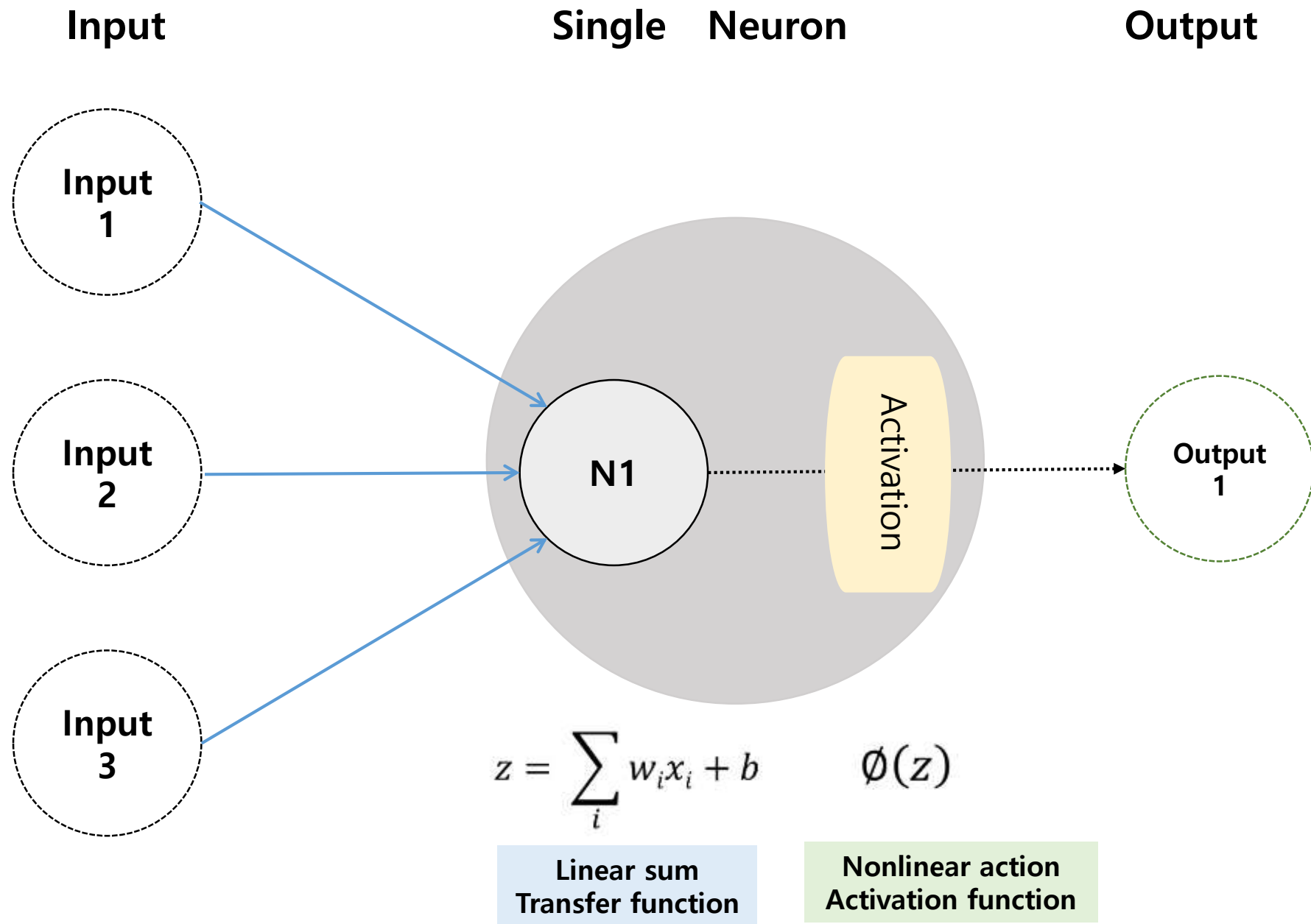


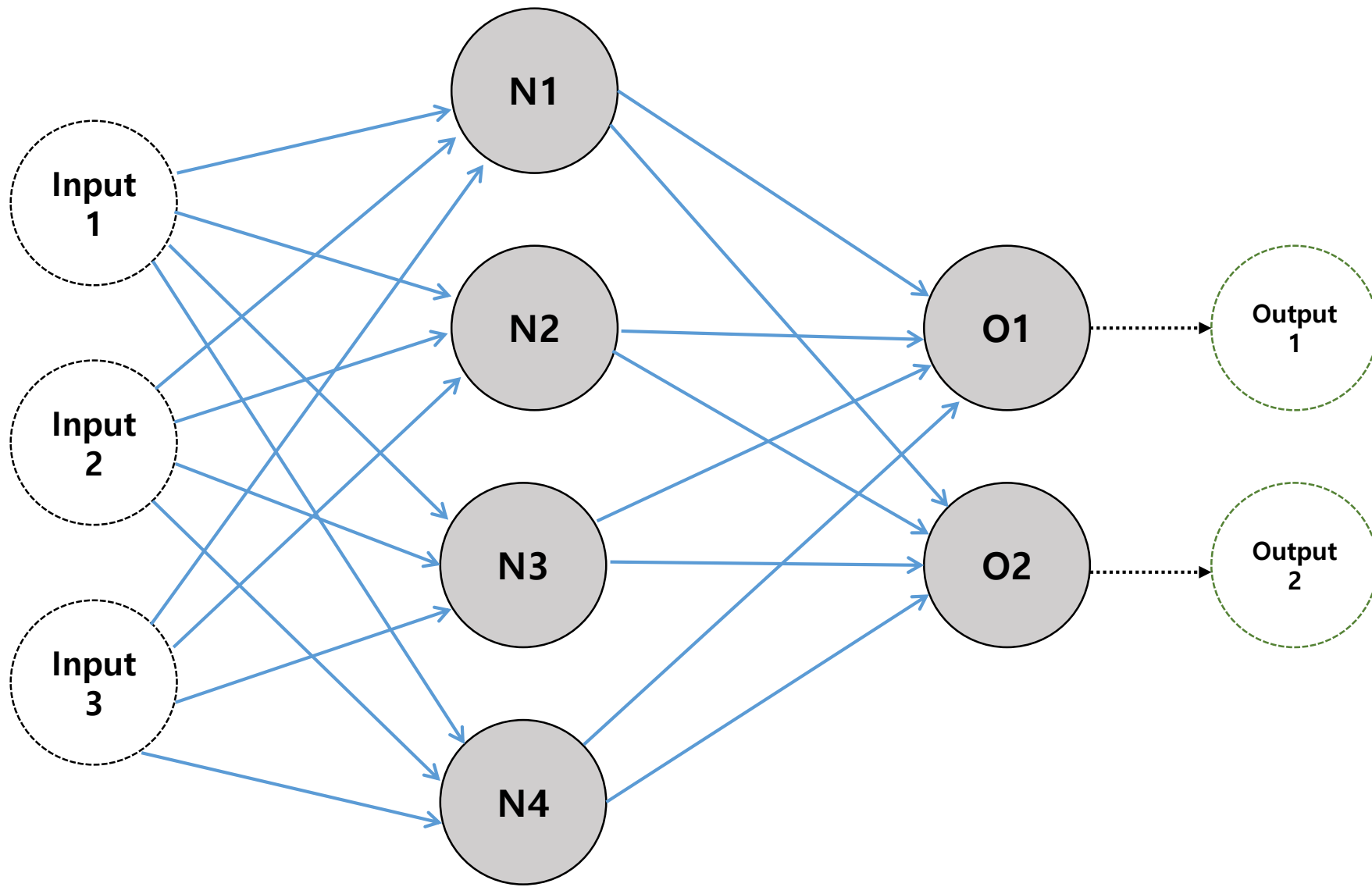
source



Biological neuron vs. ANN





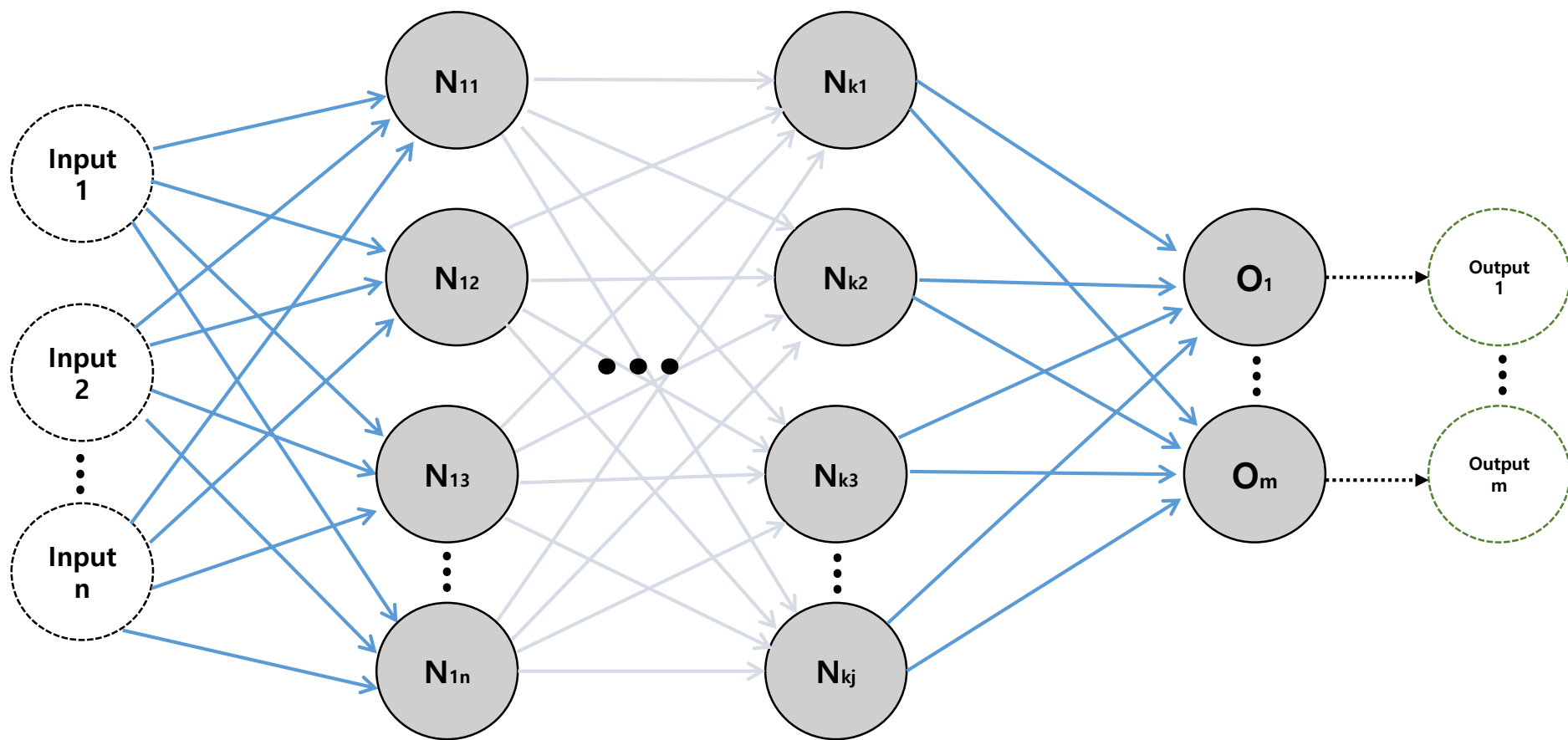


Input

Hidden layer

Output layer

Output



n-Input

k-Hidden layers → deep layer

m-Output layer

A mostly complete chart of Neural Networks

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-  Backfed Input Cell
-  Input Cell
-  Noisy Input Cell
-  Hidden Cell
-  Probabilistic Hidden Cell
-  Spiking Hidden Cell
-  Output Cell
-  Match Input Output Cell
-  Recurrent Cell
-  Memory Cell
-  Different Memory Cell
-  Kernel
-  Convolution or Pool

Perceptron (P)



Feed Forward (FF)



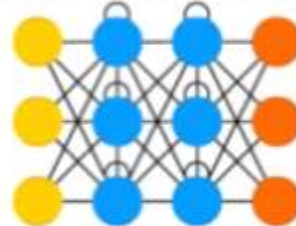
Radial Basis Network (RBF)



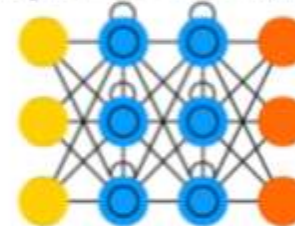
Deep Feed Forward (DFF)



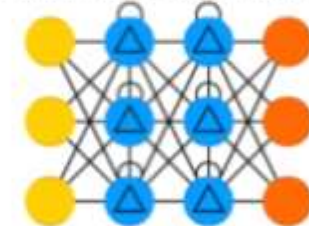
Recurrent Neural Network (RNN)



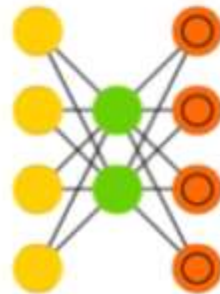
Long / Short Term Memory (LSTM)



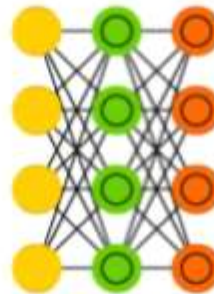
Gated Recurrent Unit (GRU)



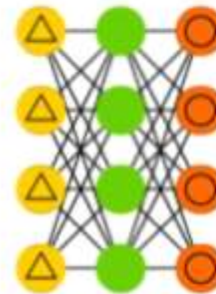
Auto Encoder (AE)



Variational AE (VAE)



Denoising AE (DAE)



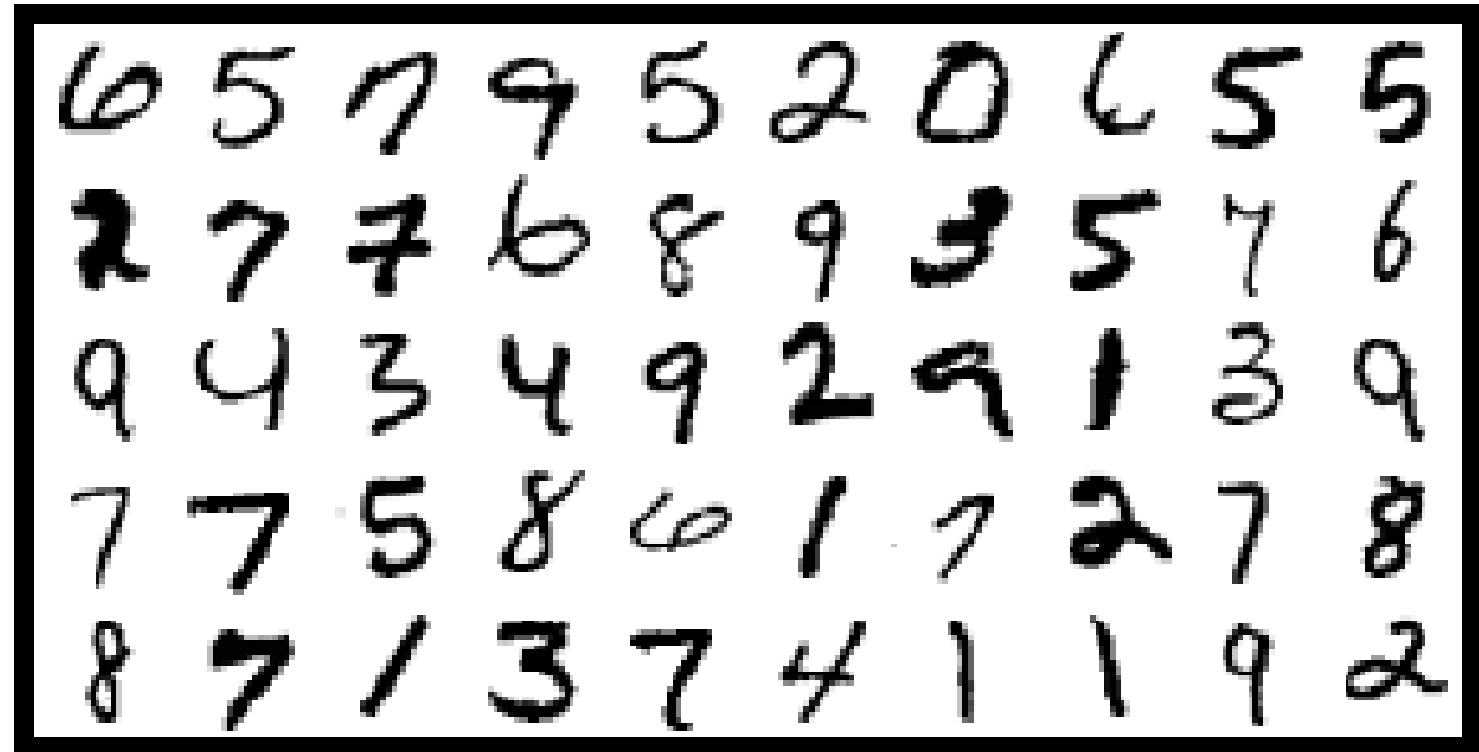
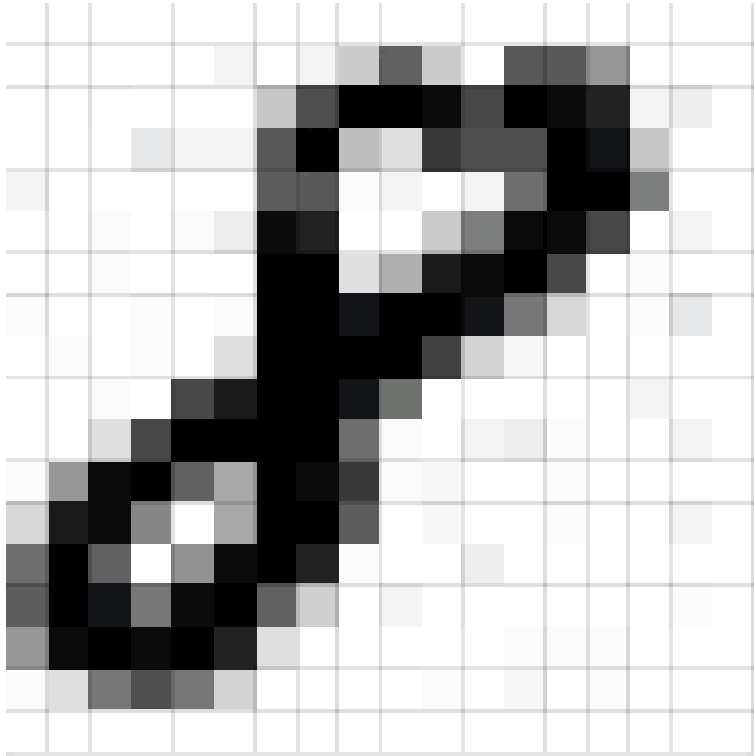
Sparse AE (SAE)



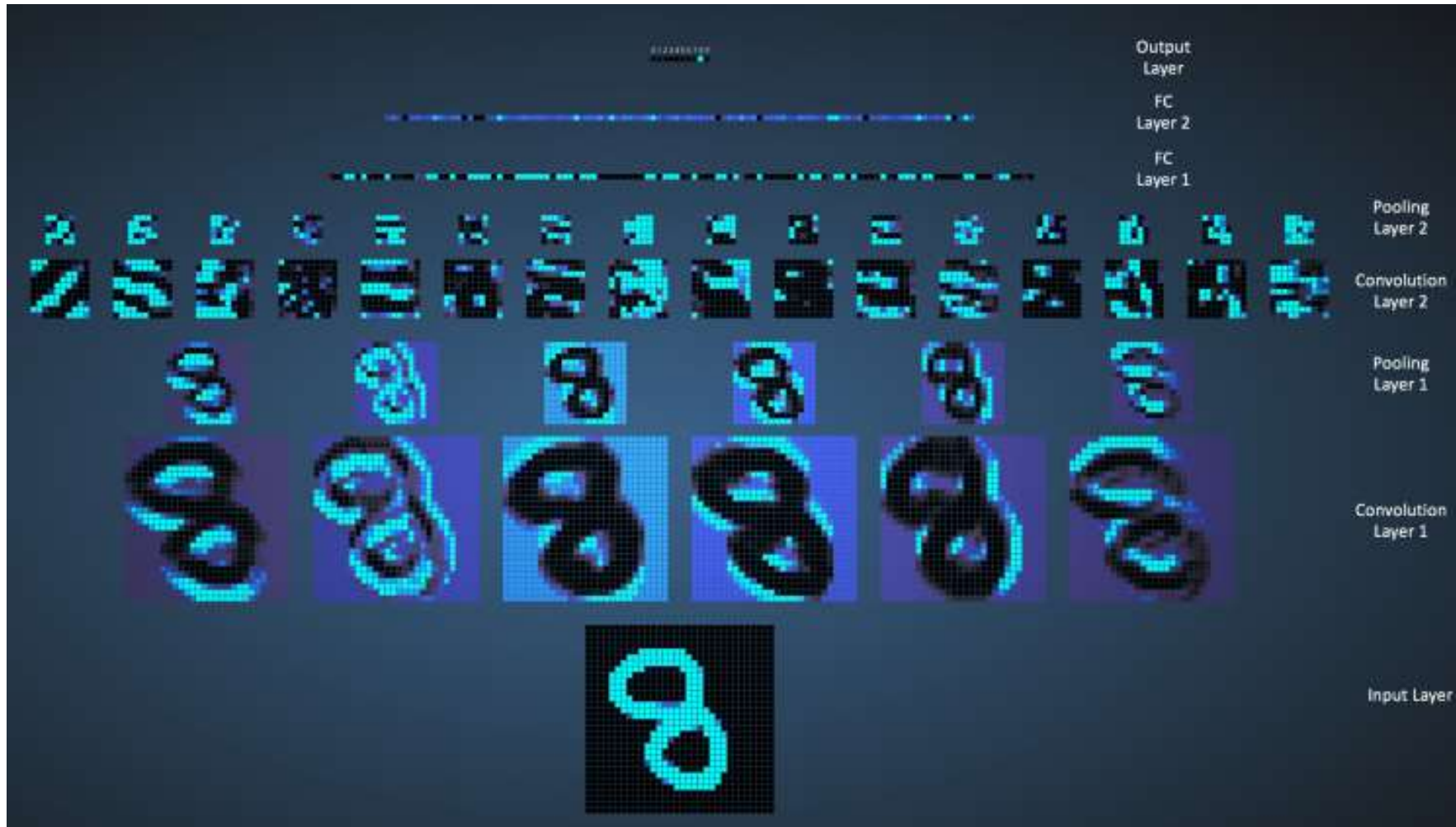
Deep Learning of Images

→ Conv2D

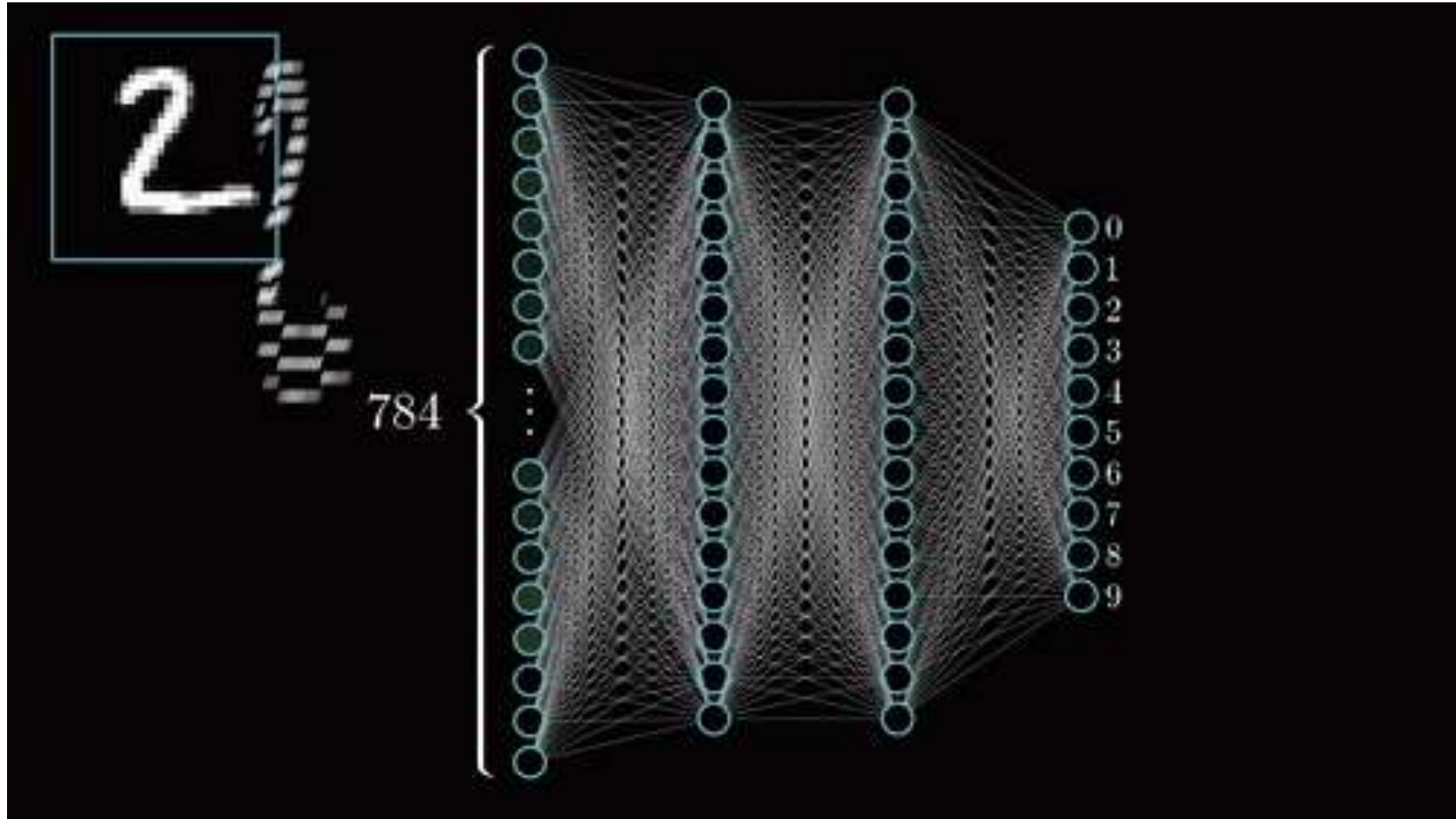
MNIST



Convolution & Pooling

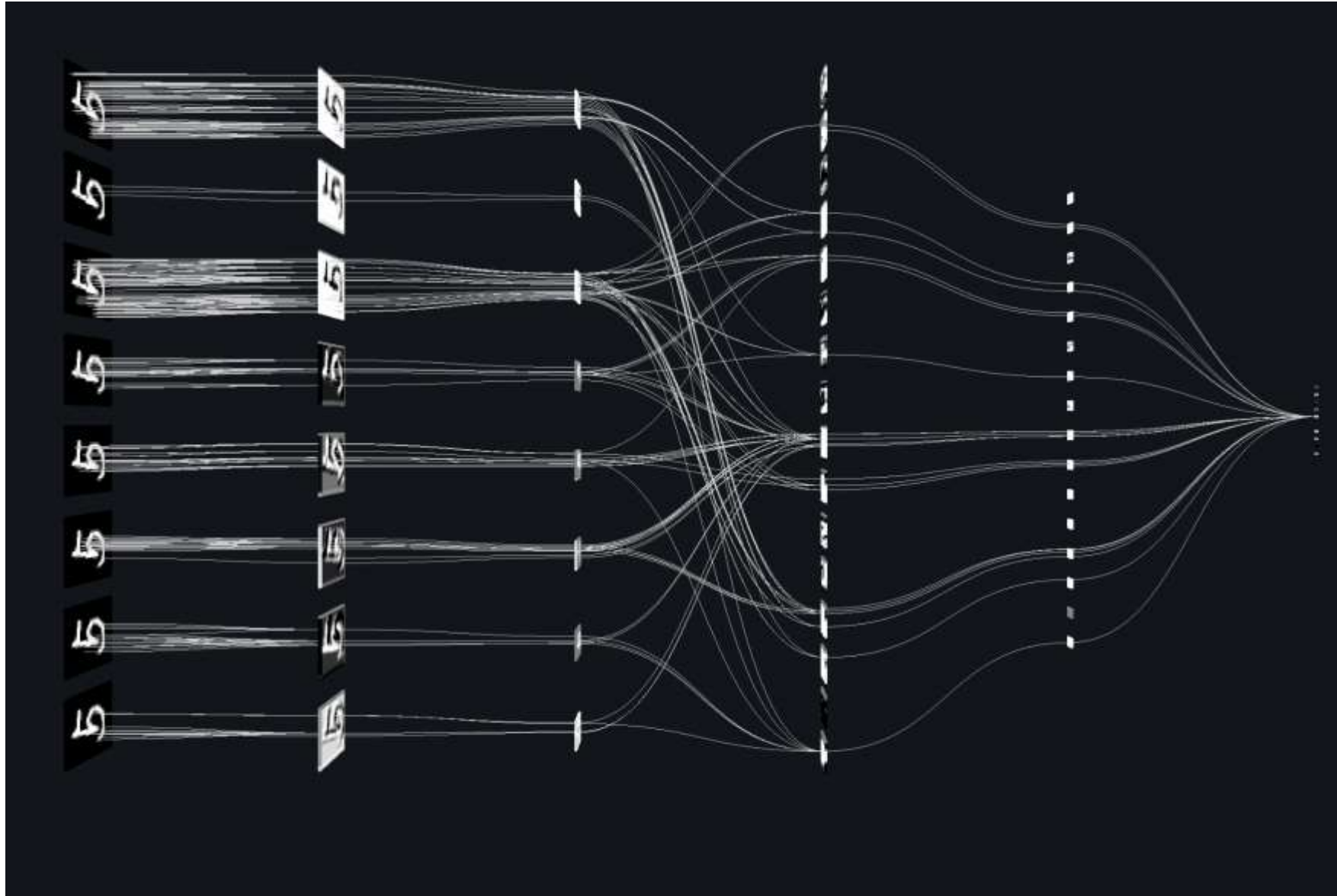


Convolution & Pooling

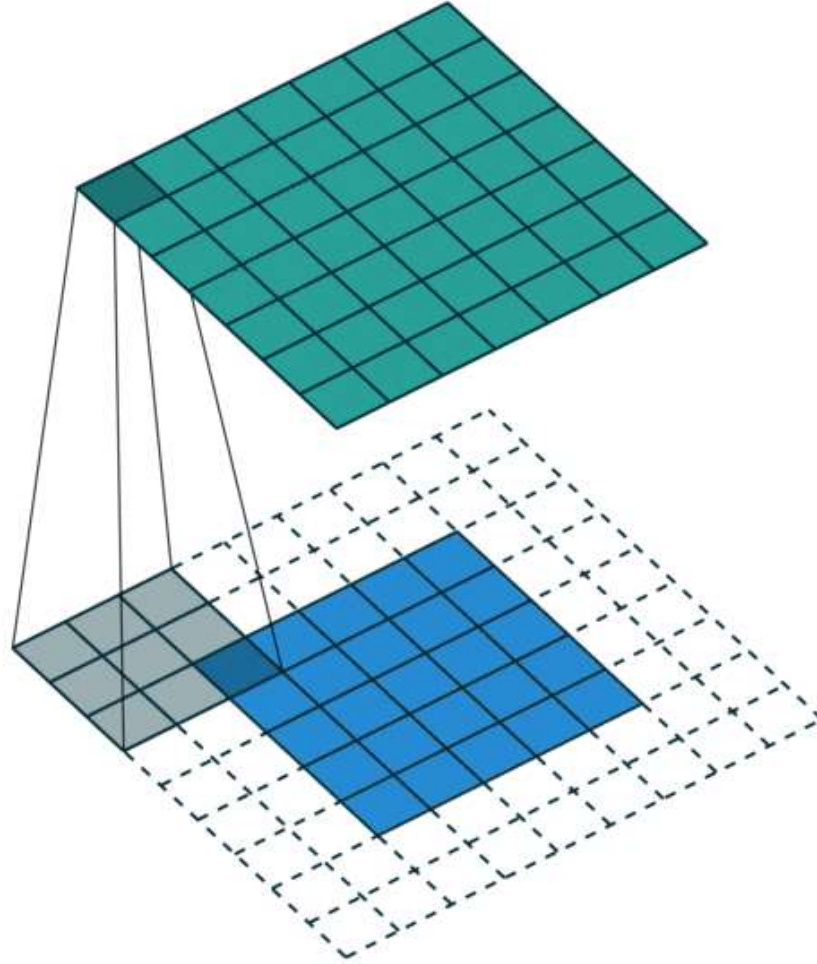


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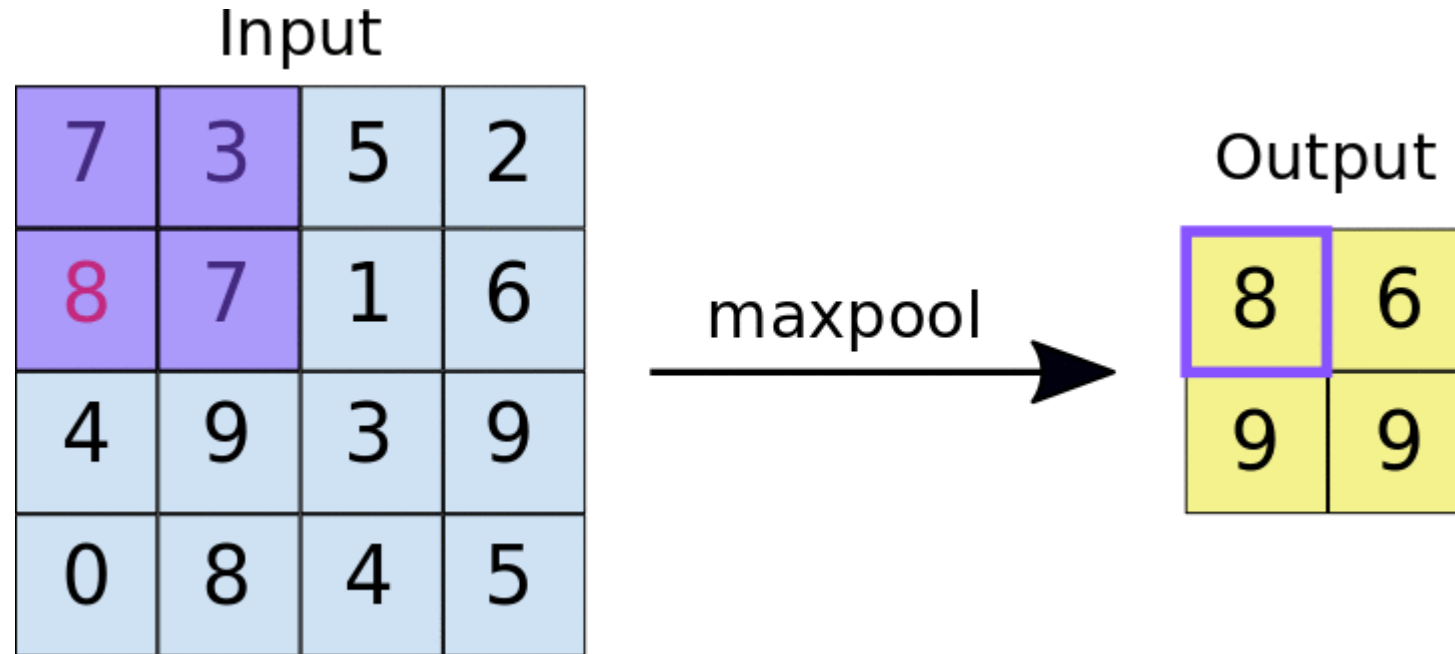
Convolution & Pooling



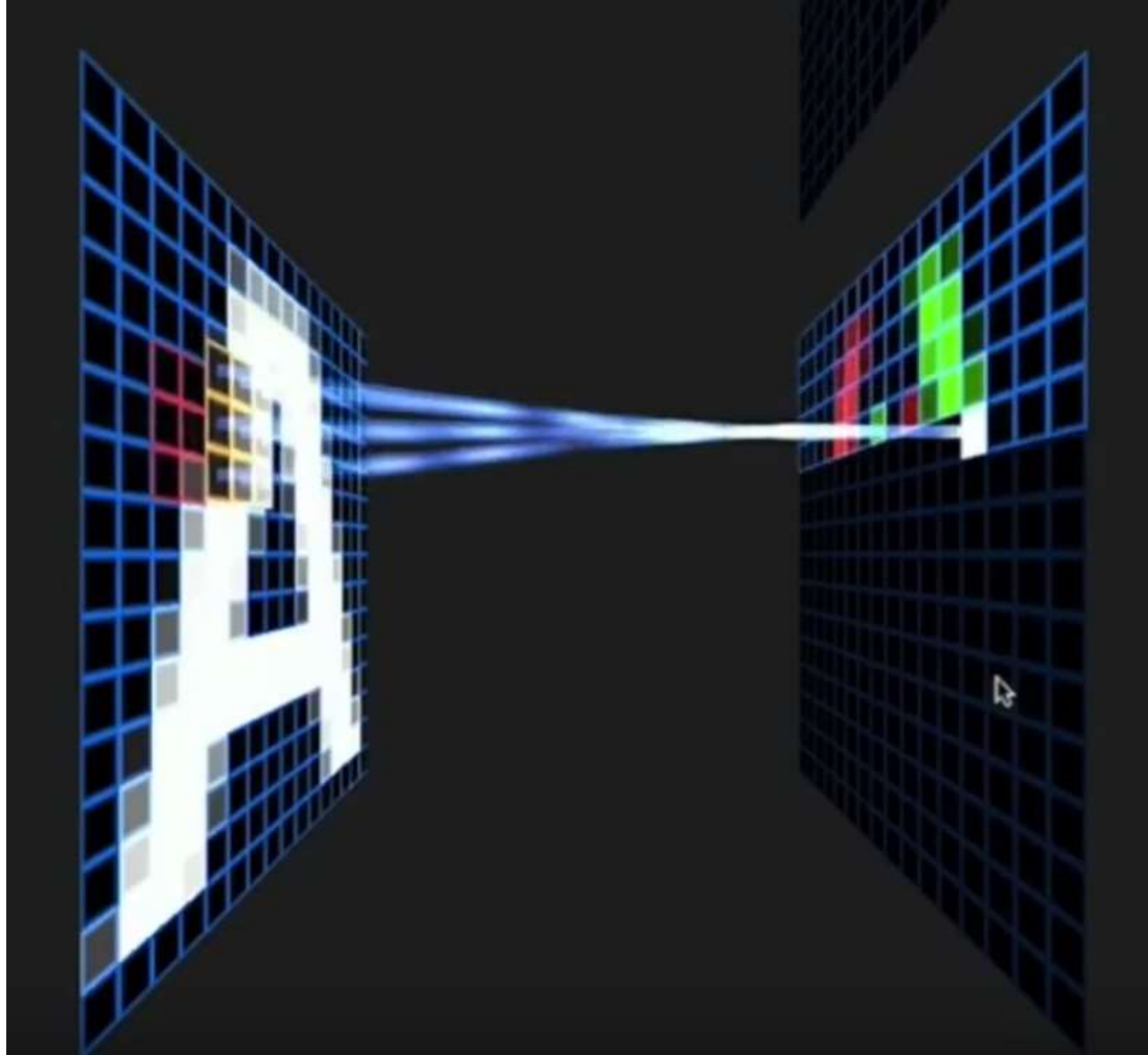
Conv2D



Max-Pooling

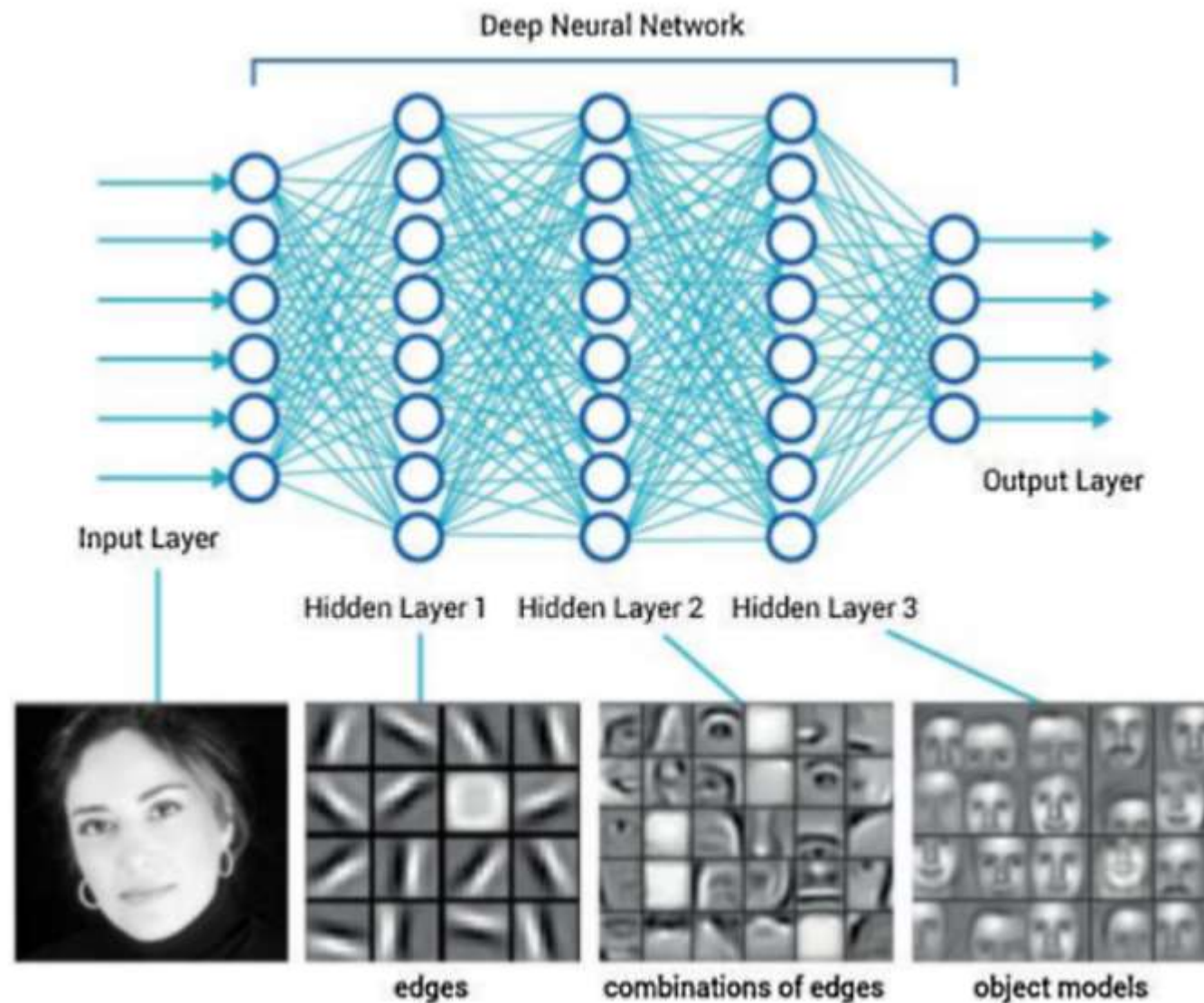


Convolution & Pooling



<https://www.youtube.com/watch?v=f0t-OCG79-U>

How does DL work on images?



Going deeper in the network

