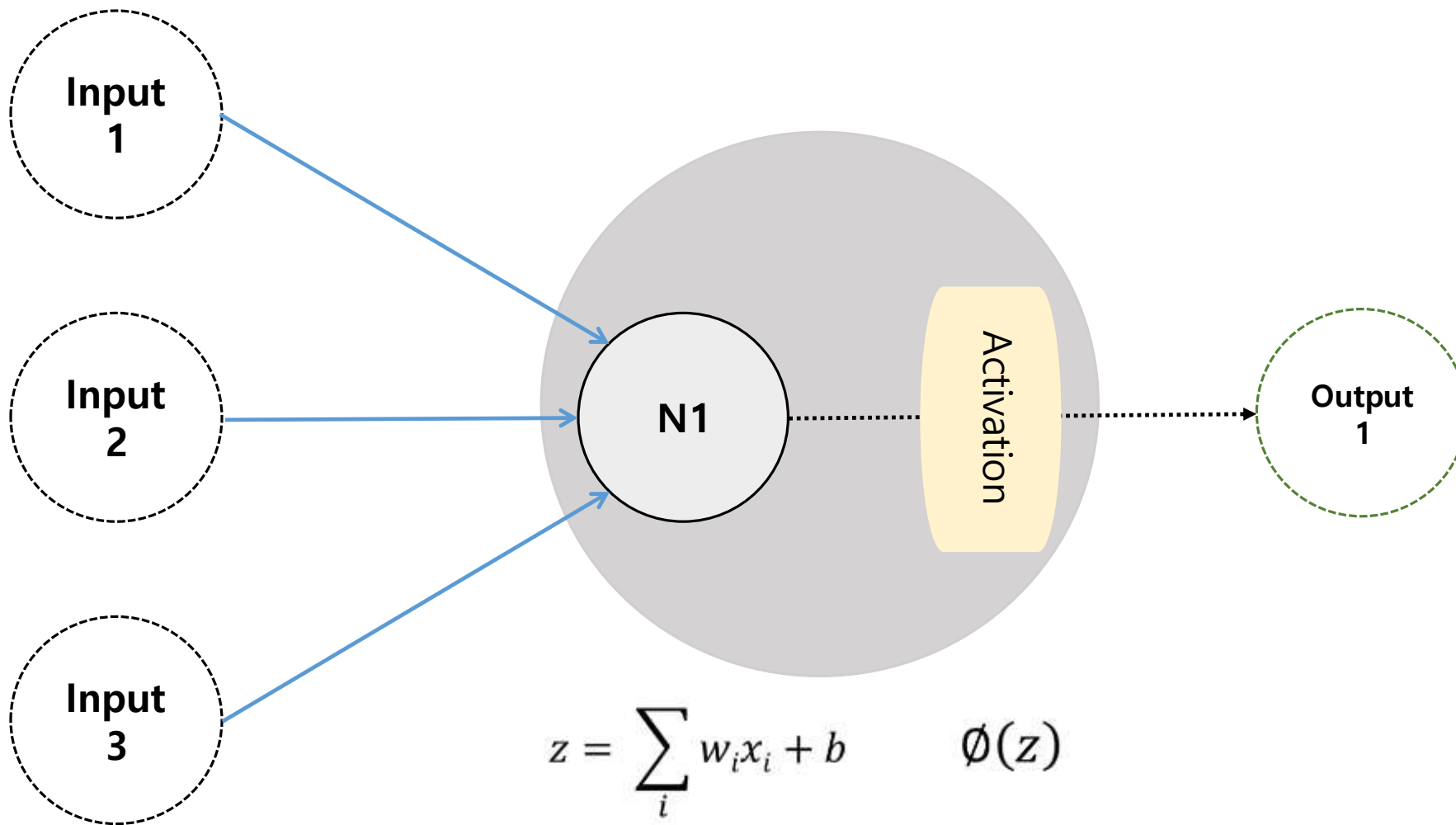


**Input**

**Single Neuron**

**Output**

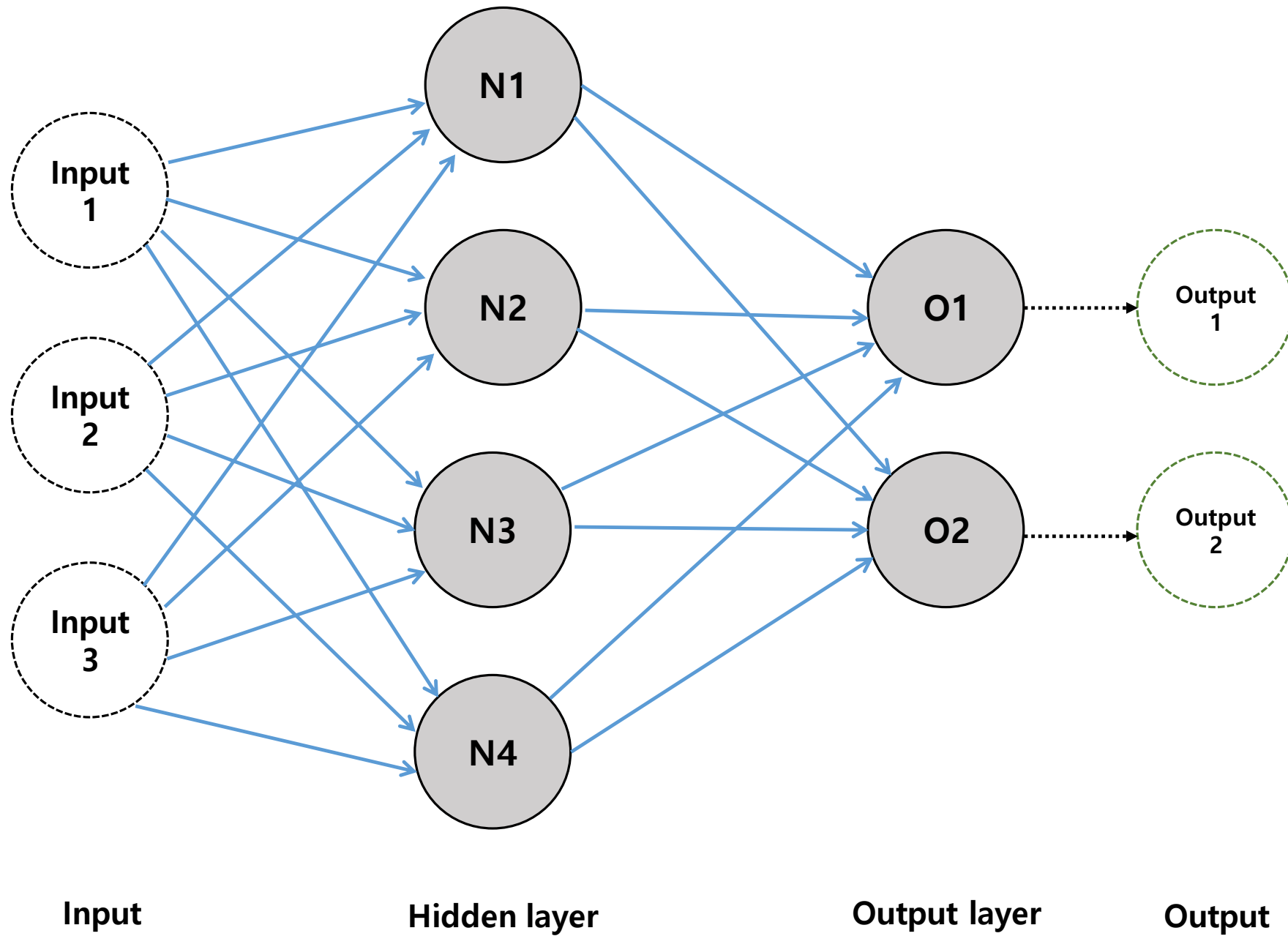


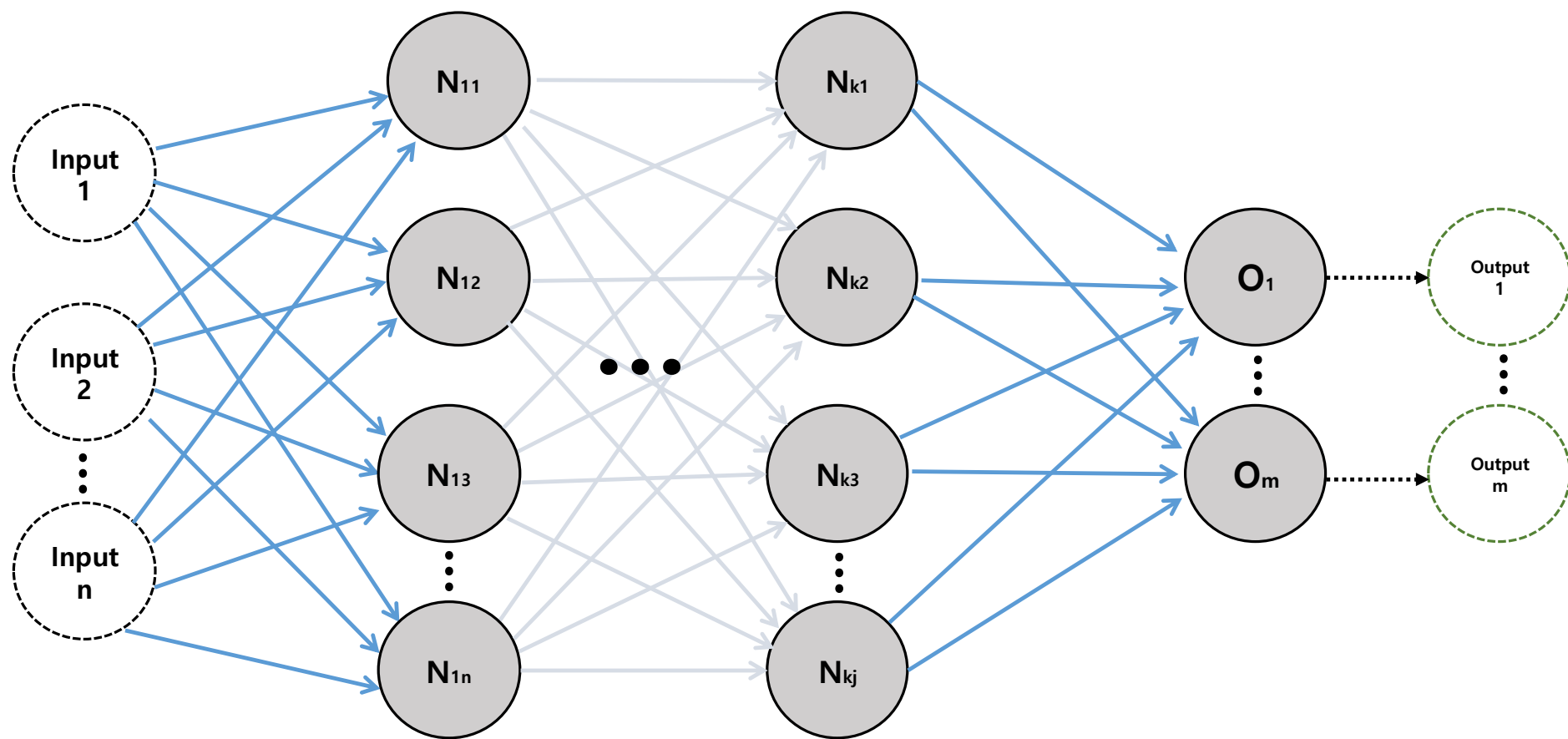
$$z = \sum_i w_i x_i + b$$

$$\phi(z)$$

Linear sum  
Transfer function

Nonlinear action  
Activation function





**n-Input**

**k-Hidden layers  $\rightarrow$  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)



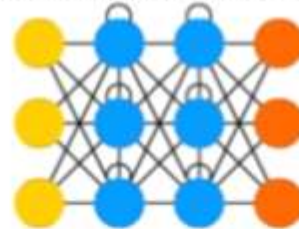
Radial Basis Network (RBF)



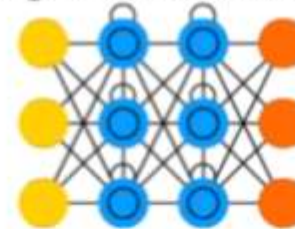
Deep Feed Forward (DFF)



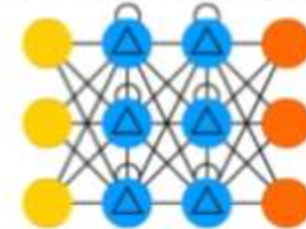
Recurrent Neural Network (RNN)



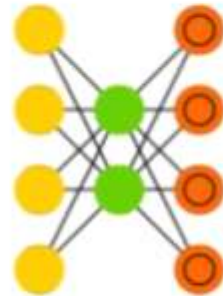
Long / Short Term Memory (LSTM)



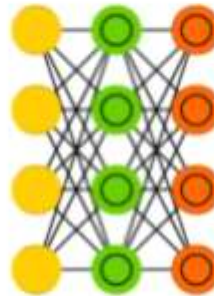
Gated Recurrent Unit (GRU)



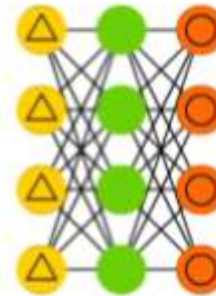
Auto Encoder (AE)



Variational AE (VAE)



Denoising AE (DAE)



Sparse AE (SAE)

