

- The sigmoid function (or logistic)

$$f(x) = \frac{1}{1+\exp(-x)}$$

- The hyperbolic tangent function ("tanh")

$$\phi(x) = \frac{\exp(x) - \exp(-x)}{\exp(x) + \exp(-x)} = \frac{\exp(2x) - 1}{\exp(2x) + 1}$$

- The hard threshold function

$$\phi_{\beta}(x) = 1_{x \geq \beta}$$

- The Rectified Linear Unit (ReLU) activation function

$$\phi(x) = \max(0, x)$$

- Here is a schematic representation of an artificial neuron where

The figure 2 represents the activation function describes above