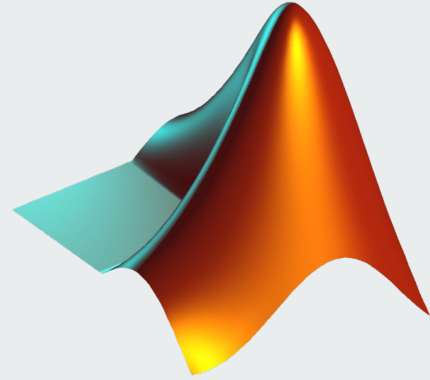


Curso de Programação em MATLAB

25 - Funções Sigmoid



Funções Sigmoid

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

1 - Sigmoid (Logistic Function)

$$f(x) = \tanh x = \frac{e^x - e^{-x}}{e^x + e^{-x}}$$

2 - Tangente Hiperbólica

$$f(x) = \arctan x$$

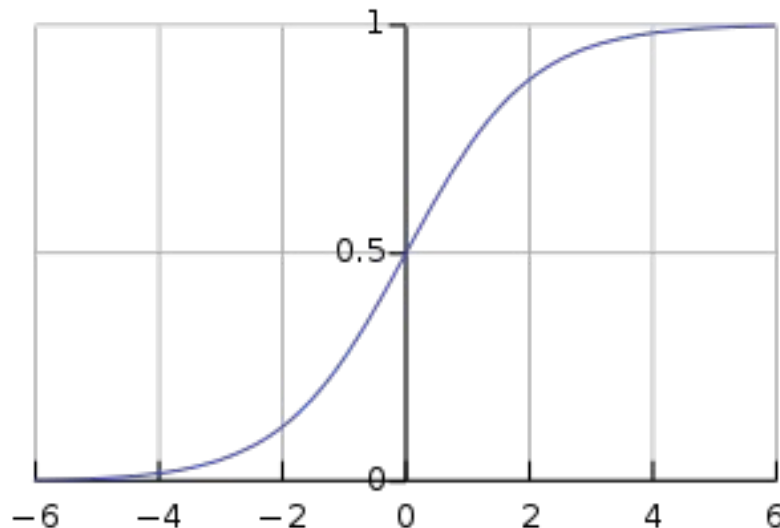
3 - Arco Tangente

$$f(x) = \frac{x}{\sqrt{1 + x^2}}$$

4 - Função Algébrica

$$f(x) = \text{gd}(x) = \int_0^x \frac{1}{\cosh t} dt = 2 \arctan\left(\tanh\left(\frac{x}{2}\right)\right)$$

5 - Gudermaniana



ΣExataMenteSπ

Funções Sigmoid

$$f(x) = \begin{cases} \left(\int_0^1 (1-u^2)^N du \right)^{-1} \int_0^x (1-u^2)^N du, & |x| \leq 1 \\ \operatorname{sgn}(x) & |x| \geq 1 \end{cases} \quad N \geq 1 \quad \text{6 - Smoothstep}$$

$$f(x) = \operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt \quad \text{7 - Error}$$

Todas

