

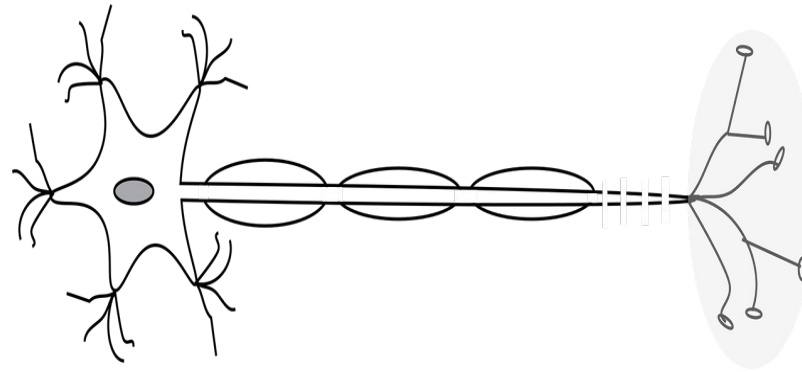


Activation Functions

Deep Learning Pre-Work

Activation in biological neurons

Biological Neuron



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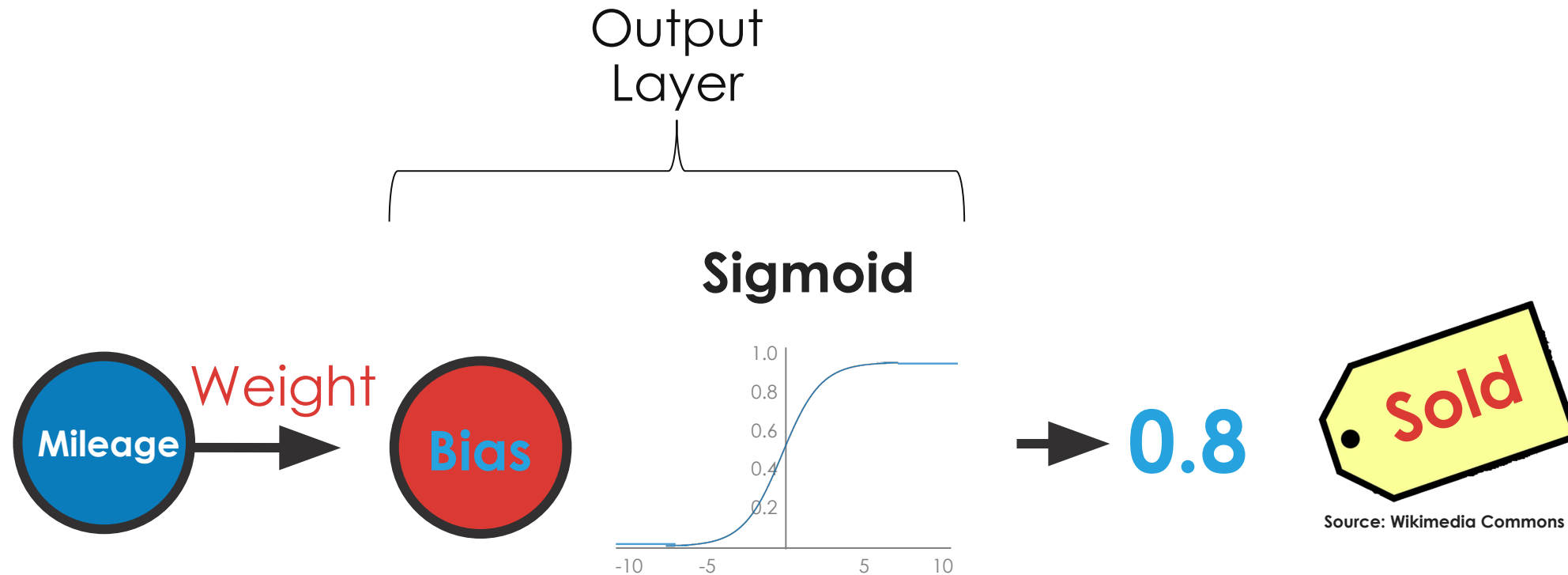
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Output Layer

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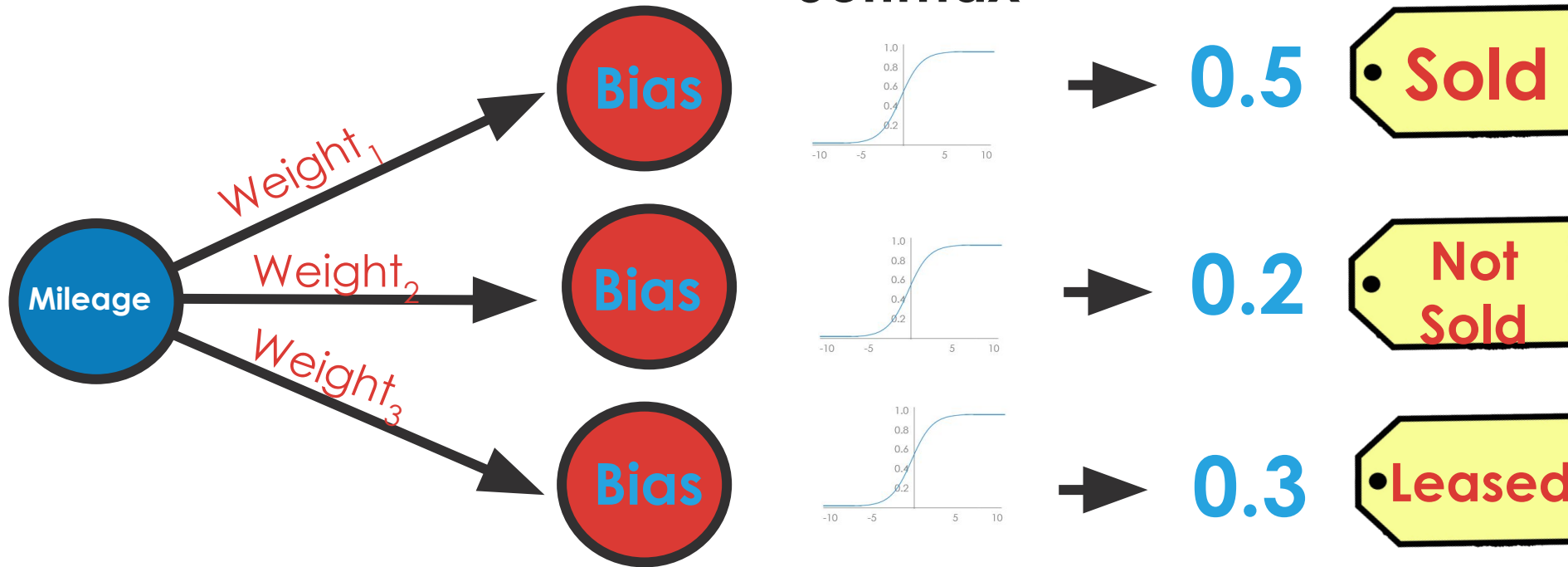
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Sigmoid Activation Function



Softmax Activation Function

Softmax

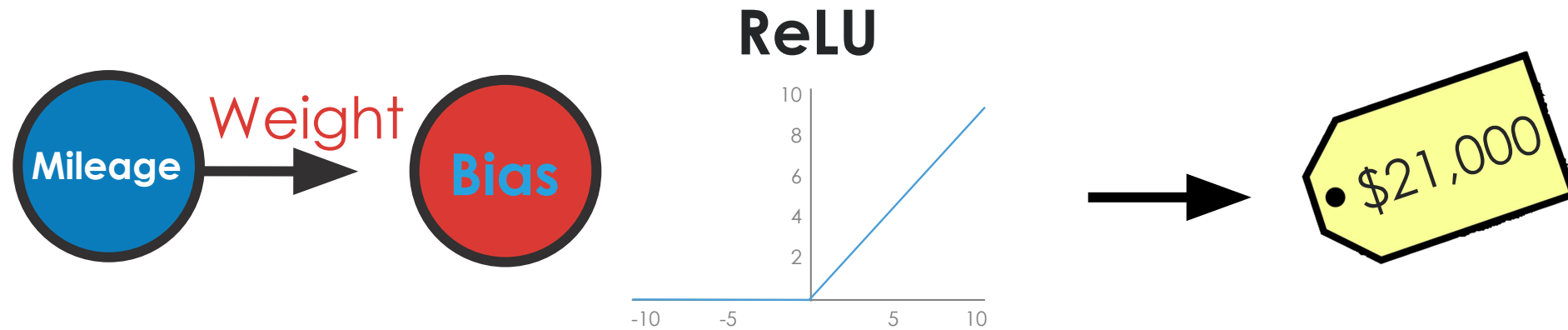


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ReLU Activation Function



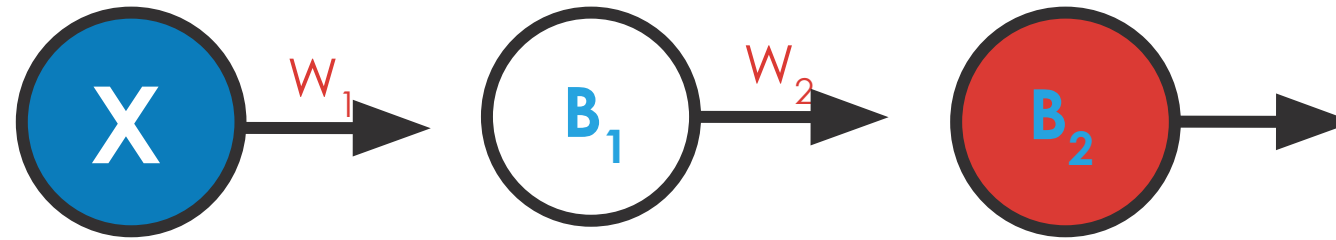
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Hidden Layers

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Equation

$$(X * W_1 + B_1) * W_2 + B_2$$



$$X * W_1 * W_2 + W_2 * B_1 + B_2$$



$$X * (W_1 * W_2) + (W_2 * B_1 + B_2)$$



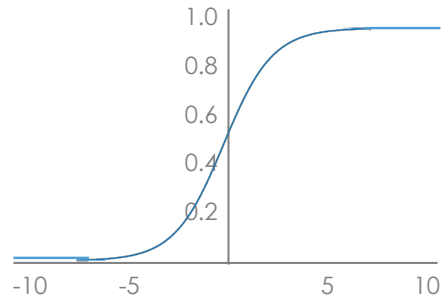
Linear equation $\rightarrow X * W + B$

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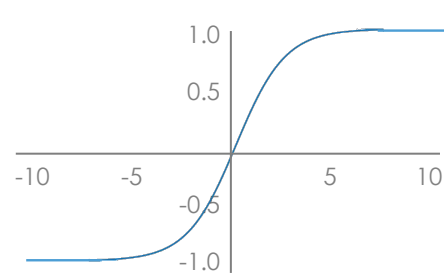
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Popular Activation Functions

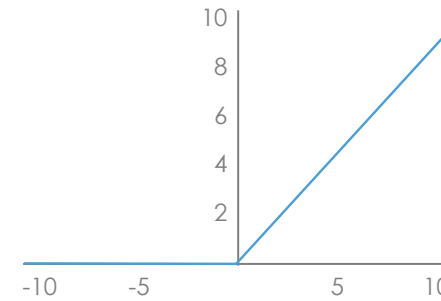
Sigmoid



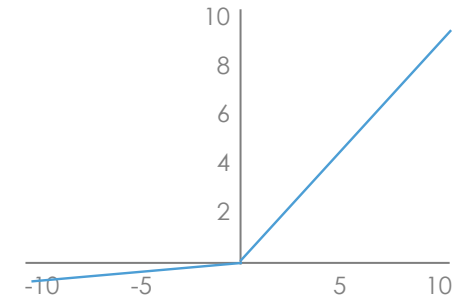
Tanh



ReLU



Leaky ReLU



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