Department of Computer Engineering

Artificial Intelligence

Assignment 6 Part 2

Dr. Rohban

Parsa Mohammadian — 98102284

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1.1

$$\left.\begin{array}{l} f(w,x) = \dfrac{1}{1+e^{-(w_0x_0+w_1x_1+w_2)}} \\ w_0 = 2, x_0 = 1, w_1 = 3, x_1 = 2, w_2 = 3 \end{array}\right\} \Rightarrow f(w,x) = \frac{1}{1+e^{-(-2+6-3)}}$$

$$= \frac{1}{1+e^{-1}}$$

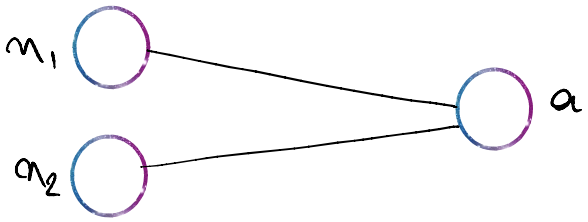
$$= \frac{1}{1+\frac{1}{e}} = \frac{1}{\frac{1+e}{e}} = \frac{e}{1+e} = 0.73105857863$$

$$\partial$$

1.2

HW 6 2 b

Thursday, December 23, 2021 22:10



activation func. : $g(n) = \frac{1}{1+e^{-n}}$ (sigmoid)

weighted sum func. : $Z(w,n) = w_0 n_0 + w_1 n_1 + \underbrace{w_2}_{\text{bias}}$

$a = g(Z(w,n)) = f(w,n)$