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Basics of Neural Network Programming Logistic Regression

Logistic Regression

Given
$$x$$
, want $\hat{y} = P(y=1|x)$
 $x \in \mathbb{R}^{n}x$
 $O \le \hat{y} \le 1$

Paranters: $w \in \mathbb{R}^{n}x$, $w \in \mathbb{R}^{n}x$.

Output $\hat{y} = \sigma(w^{T}x + b)$

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$$X_0 = 1, \quad x \in \mathbb{R}^{n_x + 1}$$

$$Y = 6 (0^T x)$$

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Basics of Neural Network Programming Logistic Regression cost function

Logistic Regression cost function

Swhere
$$x^T x^{(i)} + b$$
, where $\sigma(z^{(i)}) = \frac{1}{1+e^{-z}}(i)$

Cliver Wart $y^{(i)}$, $y^{(1)}$, ..., $y^{(m)}$, $y^{(m)}$, want $y^{(i)} \approx y^{(i)}$.

Loss (error) function: $\int_{\mathcal{C}} (\hat{y}, y) = \frac{1}{2}(\hat{y} - y)^2$

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