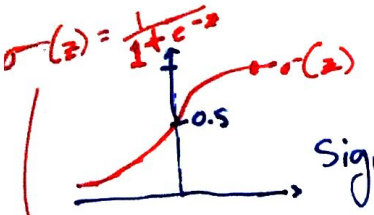
Output $\hat{y} = w^T x + b$ ← linear Regression!

∴ not to use here, it gives y = actual value

we want $P(y=1|x)$

we'd want $\hat{y} = \sigma(\underbrace{w^T x + b}_{z})$

$\sigma(z) = \frac{1}{1+e^{-z}}$



Sigmoid f^n: gives values between 0 & 1

z large, $p \approx 1$

z small or -ve large $p \approx 0$

Big Oof: alternate notation taught @drexel ✱

$x_0 = 1$, $x \in \mathbb{R}^{n_x+1}$

$\hat{y} = \sigma(\theta^T x)$

$$\theta = \underbrace{\begin{bmatrix} \theta_0 \\ \theta_1 \\ \theta_2 \\ \vdots \\ \theta_{n_x} \end{bmatrix}}_{\text{we're not gonna use this notation moving forward}} \begin{matrix} \} b \\ \\ \\ \\ \\ \end{matrix} \rightarrow \text{real no. or intercept}$$

$\theta_1 \ldots \theta_{n_x}$ } w

✱ I used this notation in log. regression project.

learn this notation from now on.

Qv: What's the parameters of logistic Regression?

Ans w, an n_x dimentional vector, & b, a real number

✱ logistic regression can be viewed as a very small neural network