

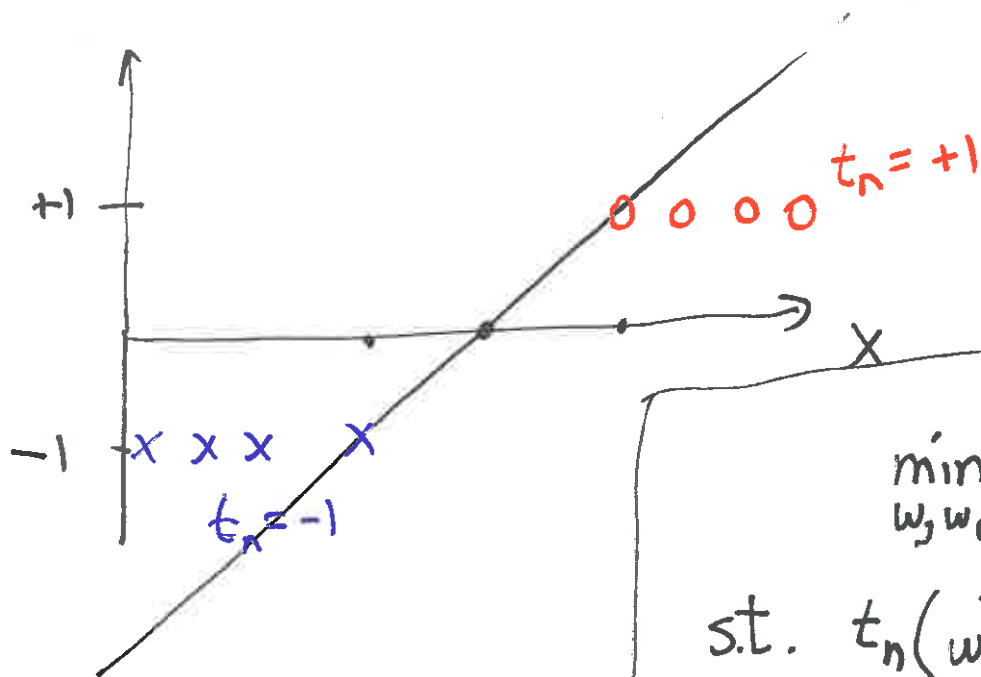
$$P(e, |x) = \frac{1}{1 + e^{w^T x + v_0}}$$

arg max  $\vec{w}$  likelihood

$$\arg \max_{\vec{w}} \prod_{n=1}^N P(e, |x)^{t_n} (1 - P(e, |x))^{1-t_n}$$

$$y(x) = f(w^T x + w_0)$$

$$f(a) = \begin{cases} 1 & \text{if } a > 0 \\ -1 & \text{o.w.} \end{cases}$$



$$\min_{w, w_0} \frac{1}{2} \|w\|^2$$

$$\text{s.t. } t_n (w^T x_n + w_0) \geq 1 \quad \forall n$$

maximize the margin

x'xxxx xx

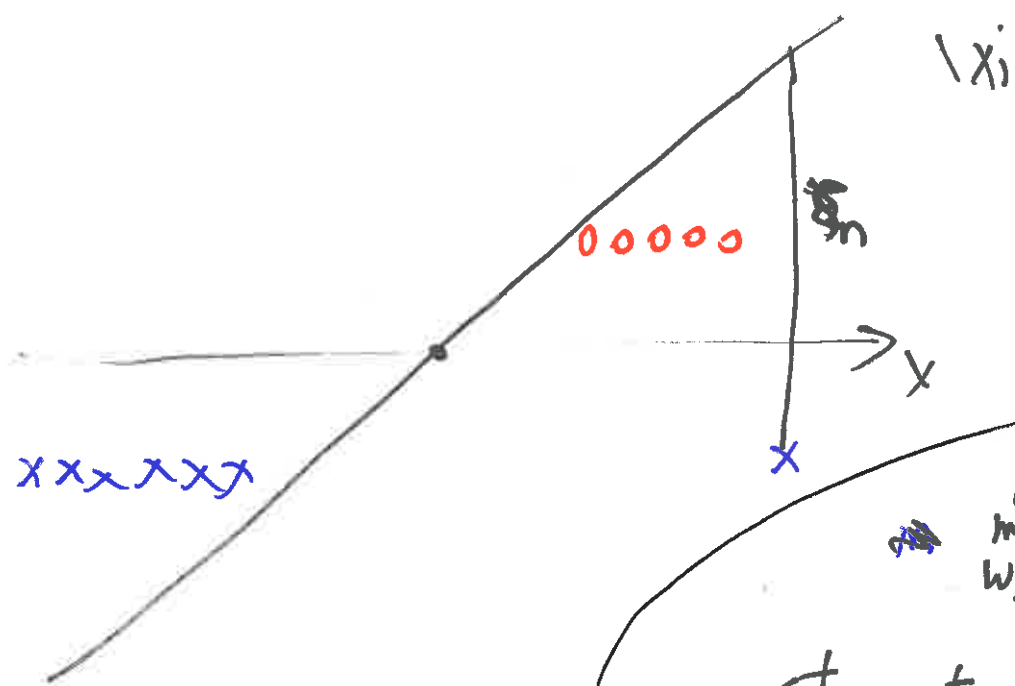
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x00000 0000

x'xxxx

•

0000x



$$\min_{w, w_0} \frac{1}{2} \|w\|^2 + C \sum_{n=1}^N \xi_n$$

$$\text{s.t. } t_n (w^T x_n + w_0) \geq 1 - \xi_n \quad \forall n$$

C

