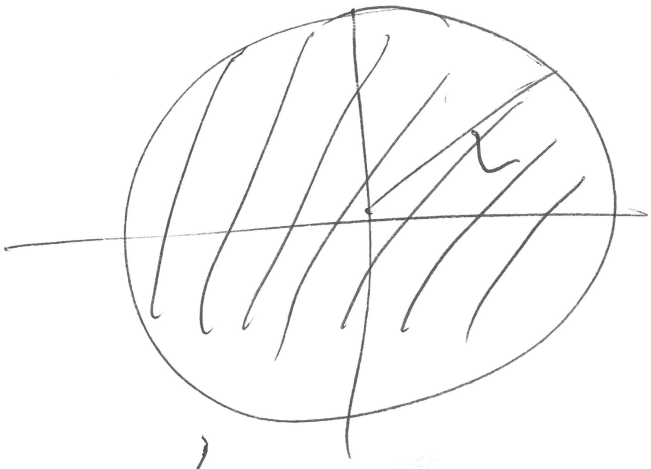
$$p(\beta) = \exp\left(-c\,\|\beta\|_2^2\right)$$

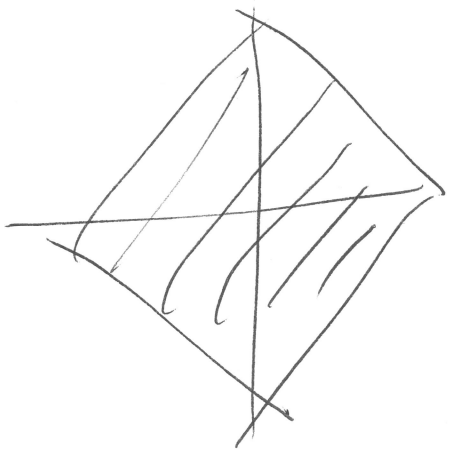
$$-\log p(\beta) = c\,\|\beta\|_2^2$$

$$\inf_{\beta} \left\{ \mathcal{L}(\beta) + c\|\beta\|_2^2 \right\}$$

$$\equiv \boxed{\inf_{\beta \text{ s.t. } \|\beta\|_2^2 \le L} \mathcal{L}(\beta)}$$

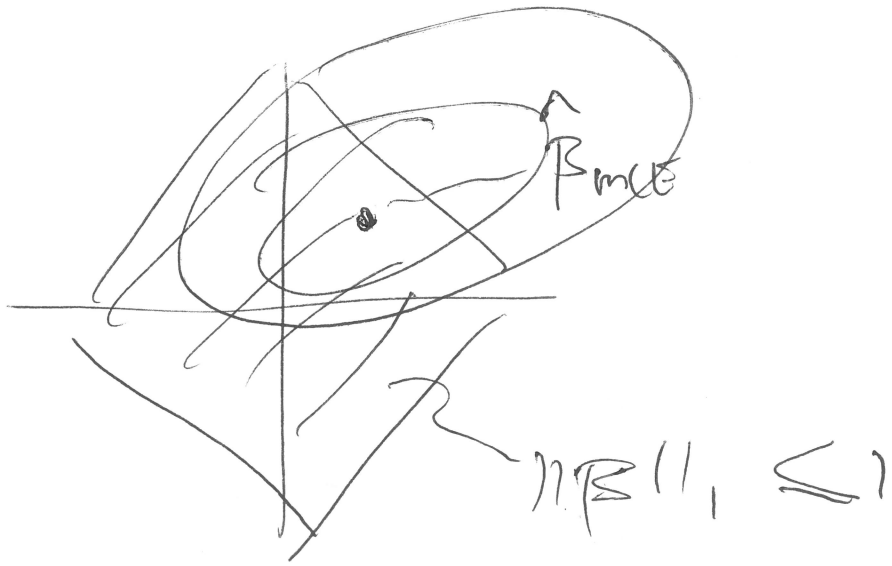


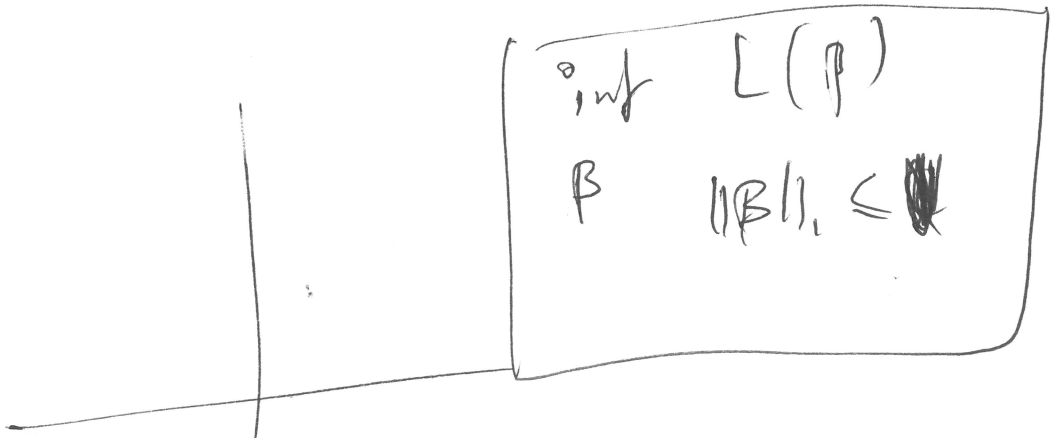
$\|\beta\|_2 \le L$



$\|\beta\|_1 \le L$

$$\|\beta\|_1 = \sum_j |\beta_j|$$





$P(y|x) = w^T x$

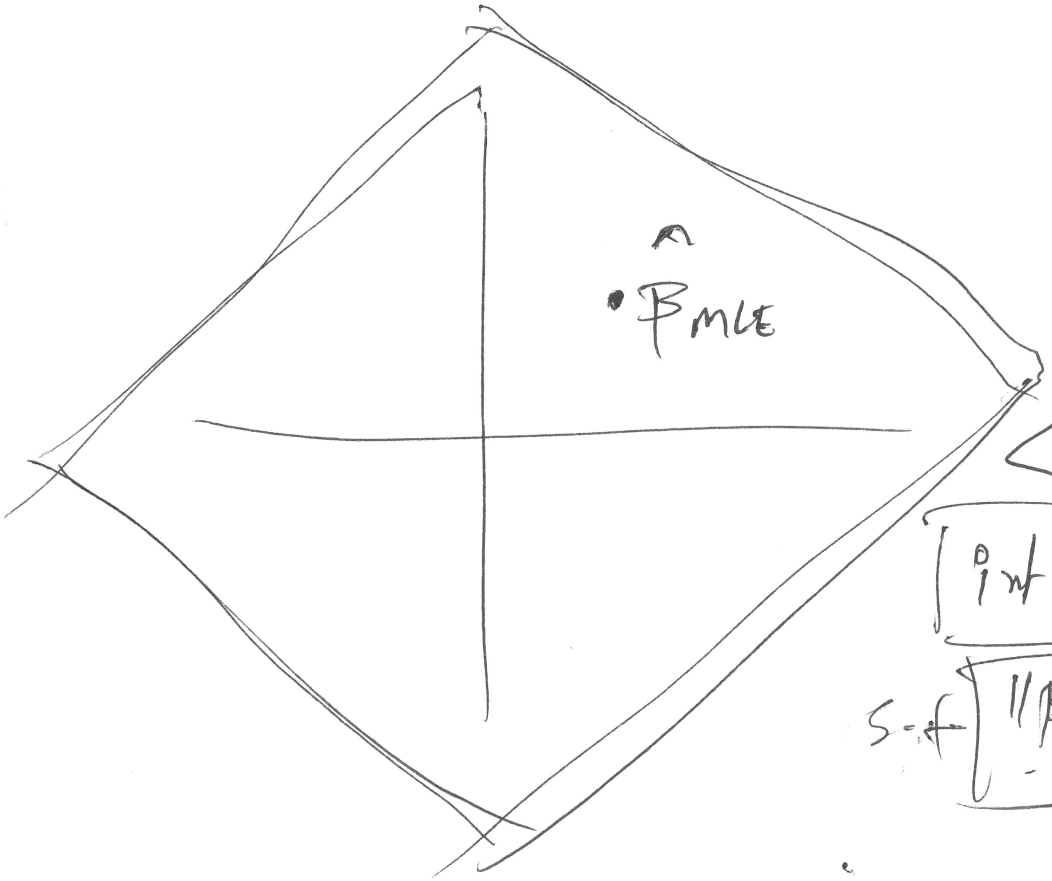
vs $P(y=0|x) = \sigma(w^T x)$

$$\int \left(\mathbb{E}\, \hat{f}_{\mathcal{D}}(x) - f^*(x) \right)^2 d\mu(x)$$

AT PT x

$$\mathbb{E}\left(\hat{f}_{\mathcal{D}}(x) - \mathbb{E}\, \hat{f}_{\mathcal{D}}(x) \right)^2$$

AT PT x

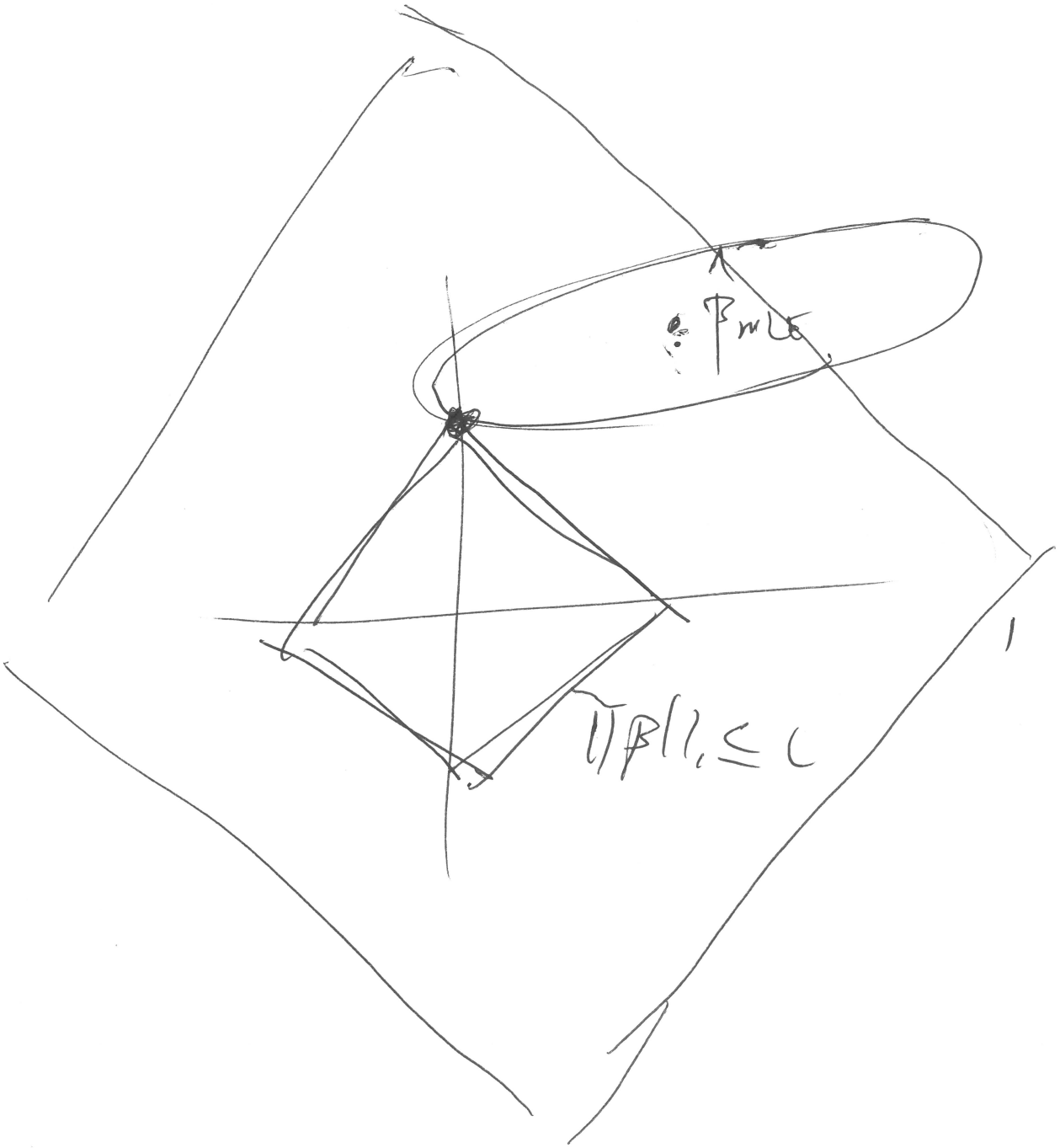


$\inf L(\beta)$

$\leq$

$\inf L(\beta)$

s.t. $\|\beta\|_1 \leq 1$


$\|\beta\|_1 \leq C$
1