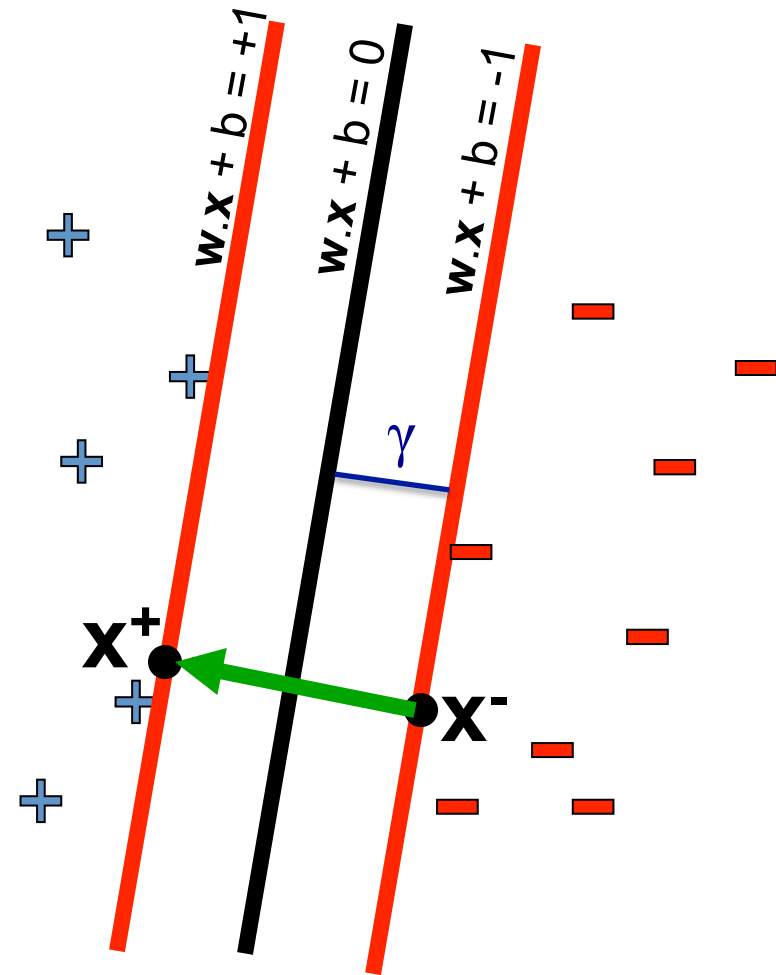


Max margin using canonical hyperplanes



$$\max_{\gamma, w, w_0} \gamma$$
$$\forall j. y^j (w \cdot x^j + w_0) > \gamma$$

$$\gamma = \frac{1}{\|w\|_2}$$

$$\min_{w, w_0} \frac{1}{2} \|w\|_2^2$$
$$\forall j. y^j (w \cdot x^j + w_0) \geq 1$$

The assumption of canonical hyperplanes (at +1 and -1) changes the objective and the constraints!