

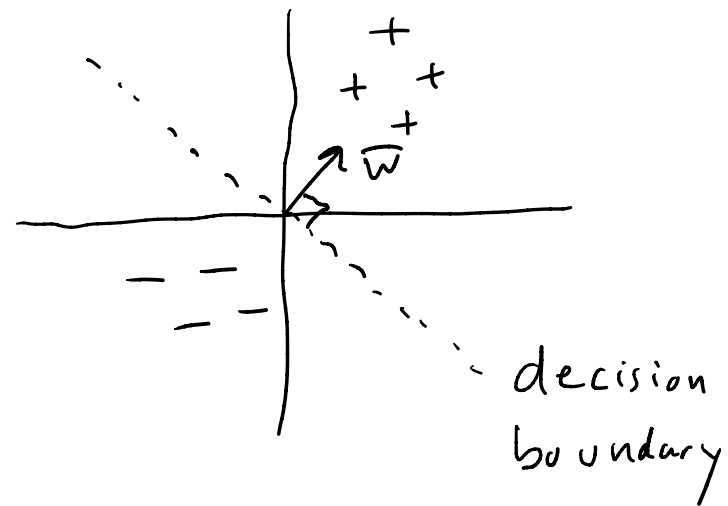
Linear Binary Classification

Point $\bar{x} \in \mathbb{R}^d$

$f(\bar{x})$ f : feature extractor
 \bar{x} : string $\rightarrow f(\bar{x}) \in \mathbb{R}^d$

Label $y \in \{-1, +1\}$

Classifier: weight vector \bar{w}
(θ)



$$\boxed{\bar{w}^T f(\bar{x}) \stackrel{?}{\geq} 0}$$

$$\bar{w}^T f(\bar{x}) + b \geq 0$$

↑ bias \times not use

$$f(\bar{x}) \quad [3, -1, 2]$$

$$\tilde{f}(\bar{x}) \quad [3, -1, 2, 1]$$

↓
add 1 to every feat vector