

## PERCEPTRON ALGORITHM

**Input** labeled training set  $\mathcal{D}$

**Initialize**  $\beta = 0$ , for all  $i$ ,  $x^i \rightarrow \frac{x^i}{\|x^i\|}$

Repeat until no more mistakes

for  $i = 1 : N$

1. if  $\text{sgn}(\beta^T x^i) \neq y^i$   
     $\beta \leftarrow \beta + y^i x^i$