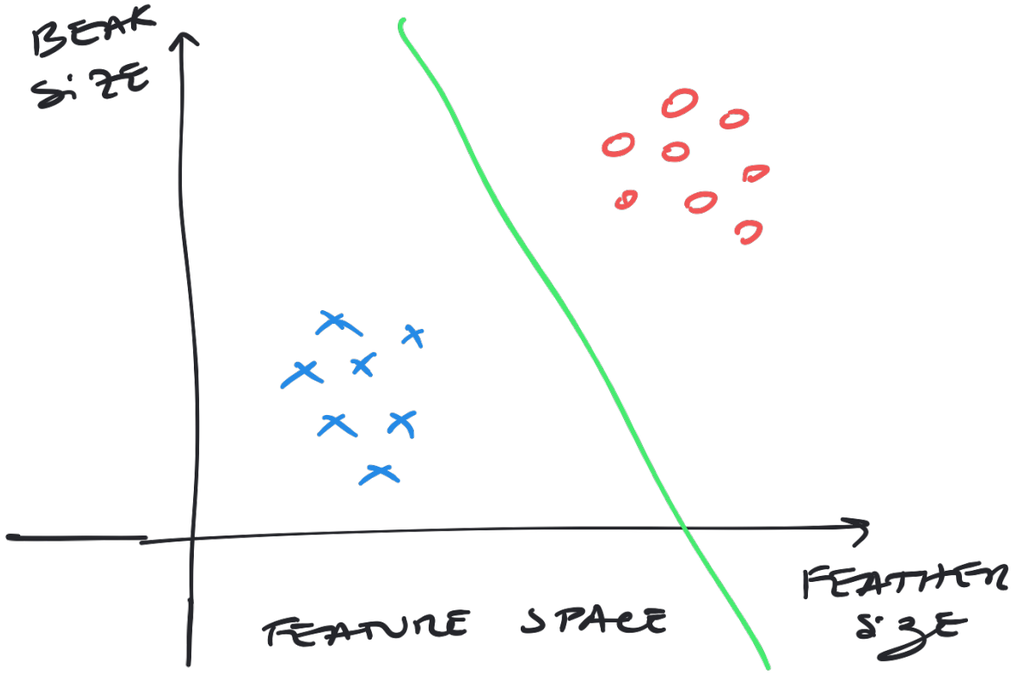
Classifiers

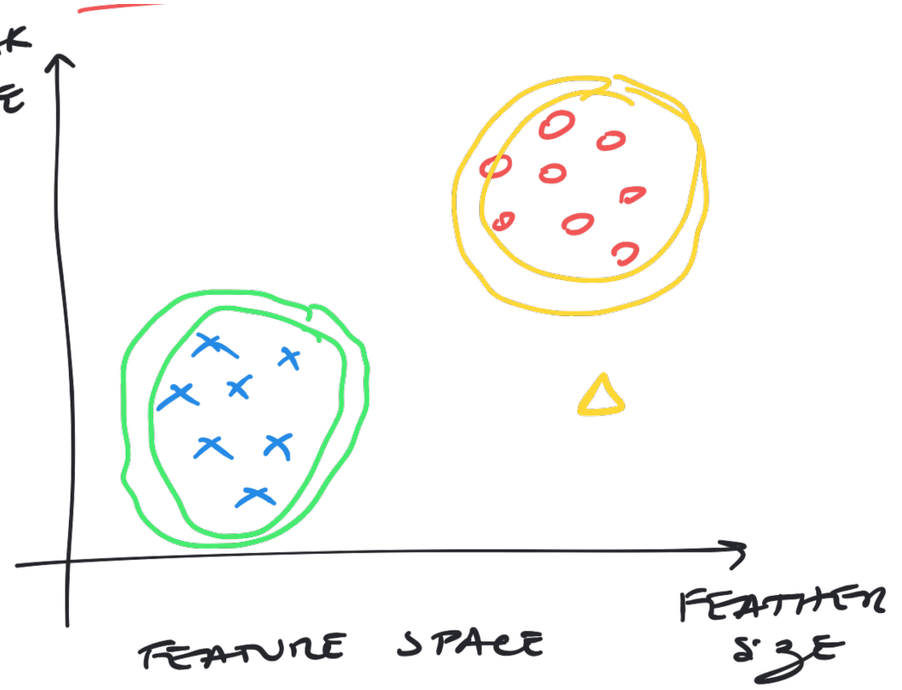
o: MACAW
x: CONURE

Discriminative



$$y = mx + b$$

Generative



$$P(c_1|\triangle) \gtrless \sum_{c_0}^{c_1} P(c_0|\triangle)$$

$$P(c_1|\triangle) = \frac{P(\triangle|c_1) \times P(c_1)}{P(\triangle)}$$

$$P(C_i \mid x) = \frac{P(x \mid C_i) \times P(C_i)}{P(x)}$$

data likelihood

prior prob.

posterior

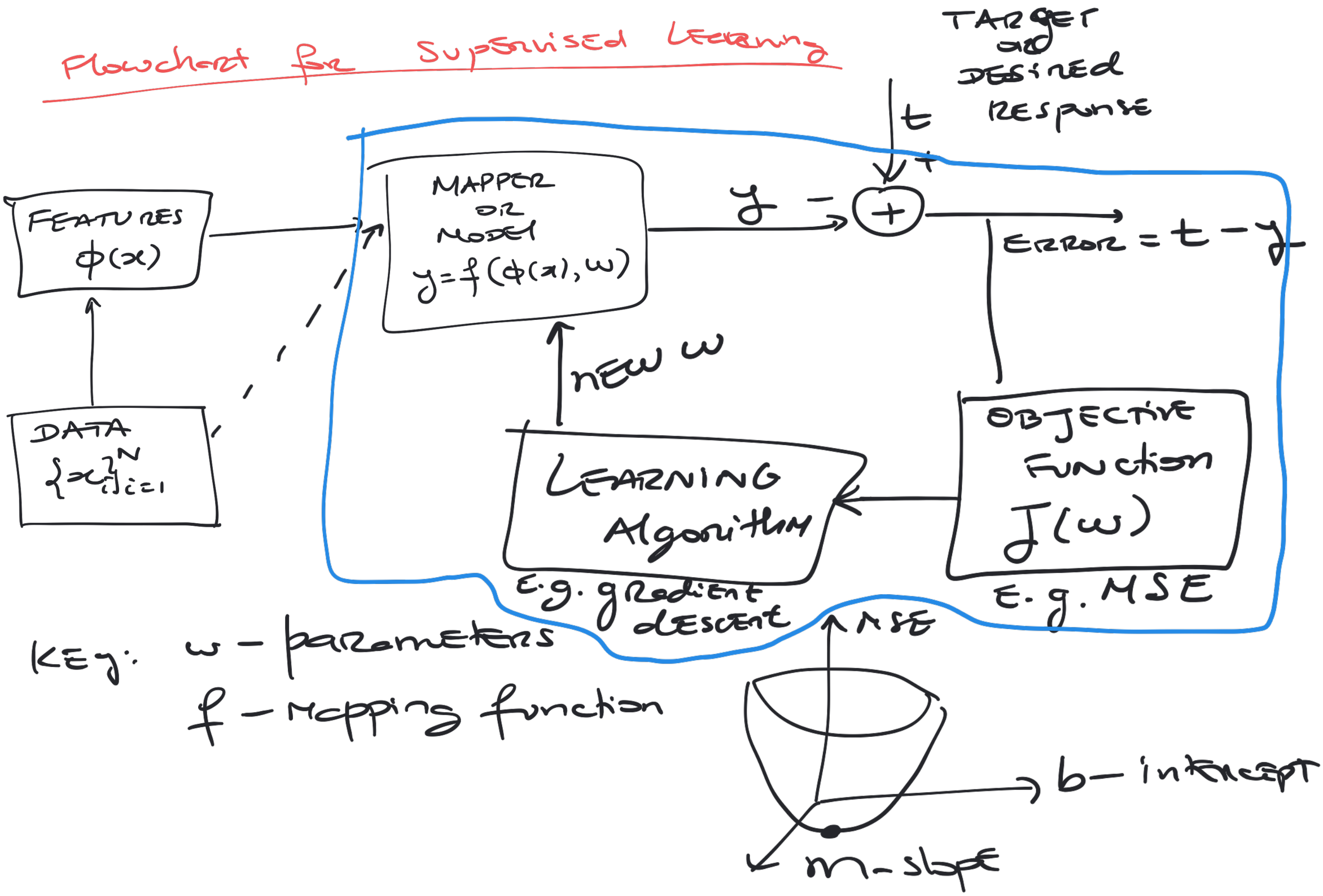
evidence prob.

Law of Total Probability:

$$P(x) = P(x \mid C_0) \times P(C_0) + P(x \mid C_1) \times P(C_1)$$

x	LABELS	PROB	THRESH ≥ 0.5
x_1 →	0	0 : 0.5	0
x_2 →	0	0 : 0.8	0
x_3 →	1	1 : 0.4	0

Flowchart for Supervised Learning



Key: w − parameters

f − mapping function