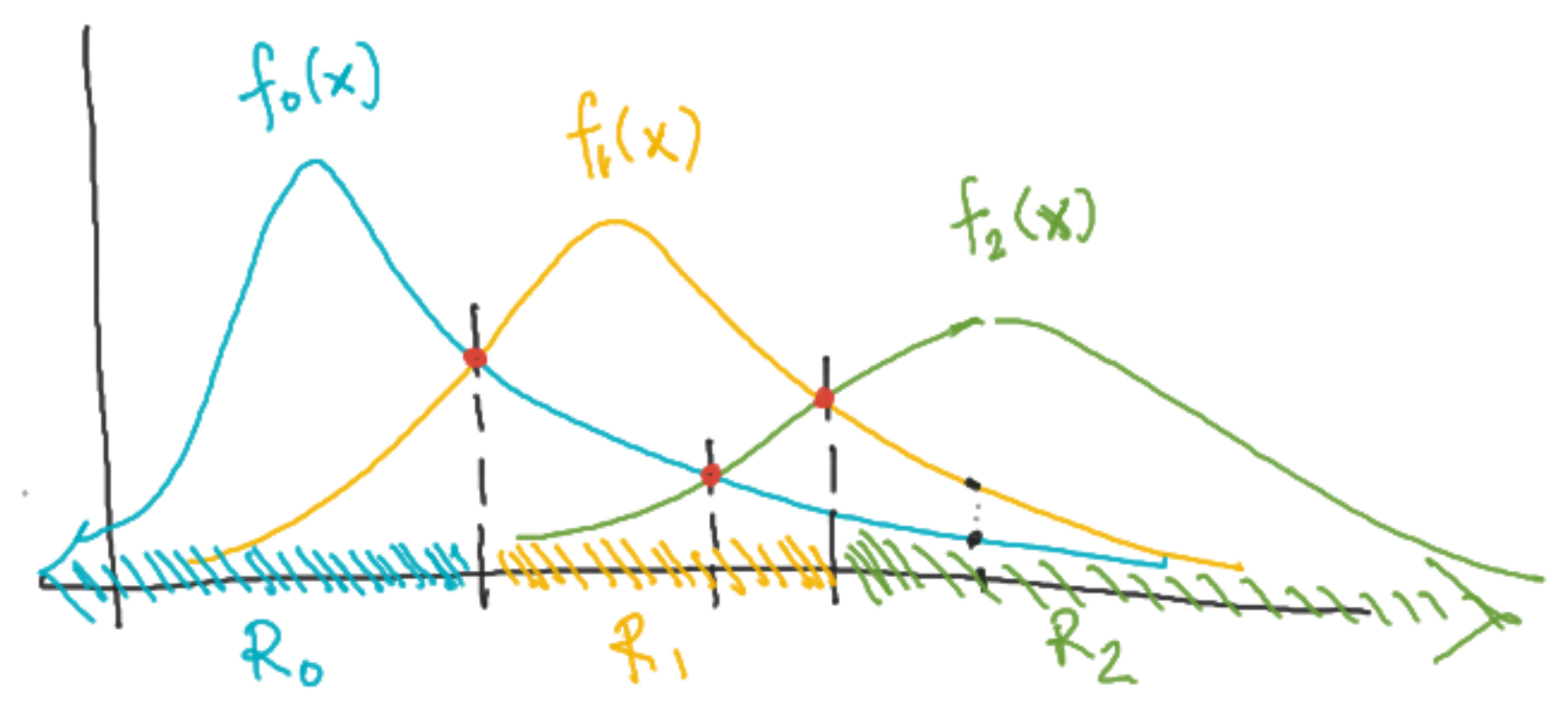
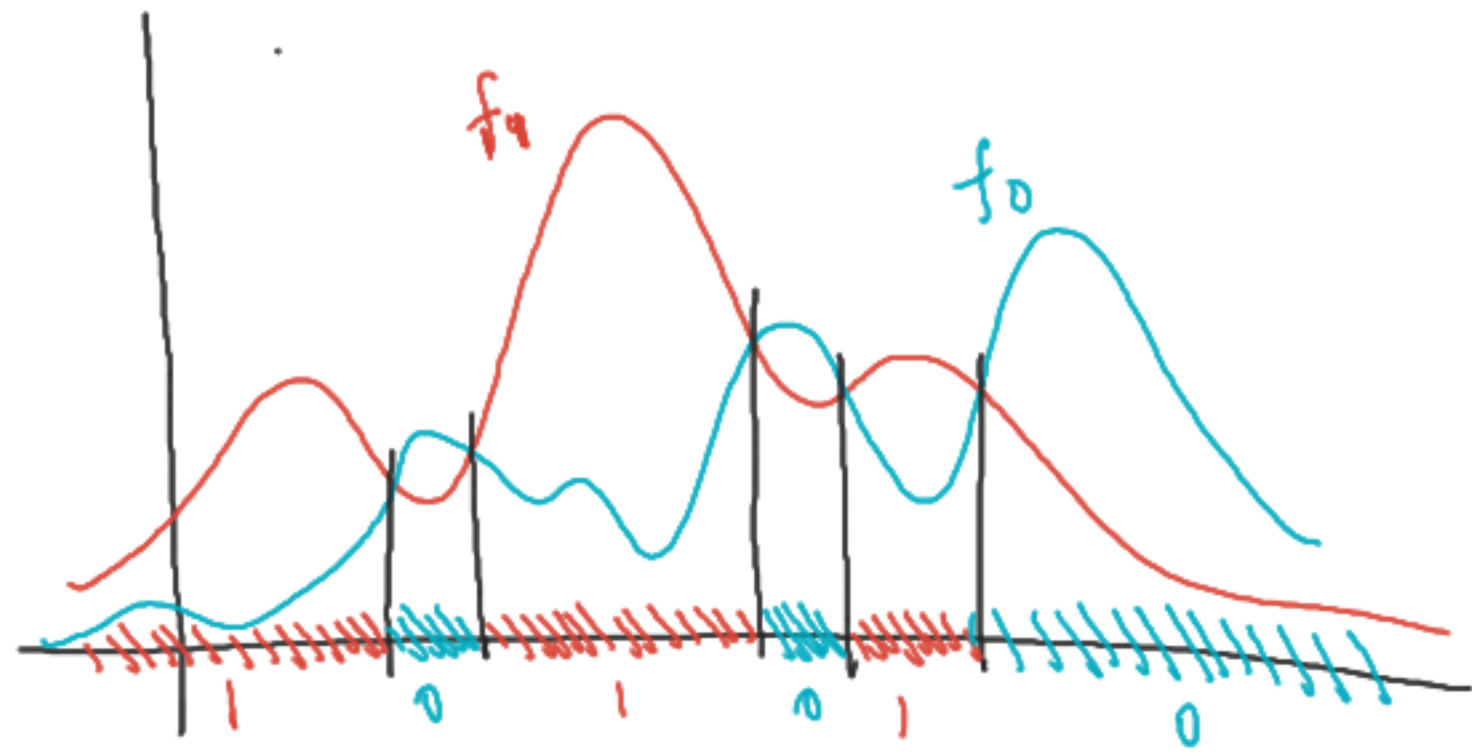


$$\text{Error} = \underbrace{\mathbb{P}(\hat{y}=1|y=0)}_{P_{10}} + \underbrace{\mathbb{P}(\hat{y}=0|y=1)}_{P_{01}}$$





	x_1	x_2	x_3				...	x_A
P_0	.	.	.	/	.			
P_1	✓	.	.	.	✓			
P_2	.	✓	✓	.				



(x_i, y_i)

$$X = \begin{bmatrix} x_1 & x_2 & \dots & x_d \\ \vdots & \vdots & \vdots & \vdots \end{bmatrix}$$

$$x_i = \underbrace{\begin{bmatrix} x_{i1} \\ x_{i2} \\ x_{i3} \\ \vdots \\ x_{id} \end{bmatrix}}_{x_i} \in \mathbb{R}^d$$

x_j v.a. independientes

$$P(y_j | X = x)$$

$$\begin{cases} y=0: & P(y=0 | X=x) = 9/125 \longrightarrow 9/12 = 3/4 \\ y=1: & P(y=1 | X=x) = 3/125 \longrightarrow 3/12 = 1/4 \end{cases}$$

$$12/125$$

$X = (\text{rojo, SUV, dom})$

$$P(y=1 | X=x) = 1/4.$$