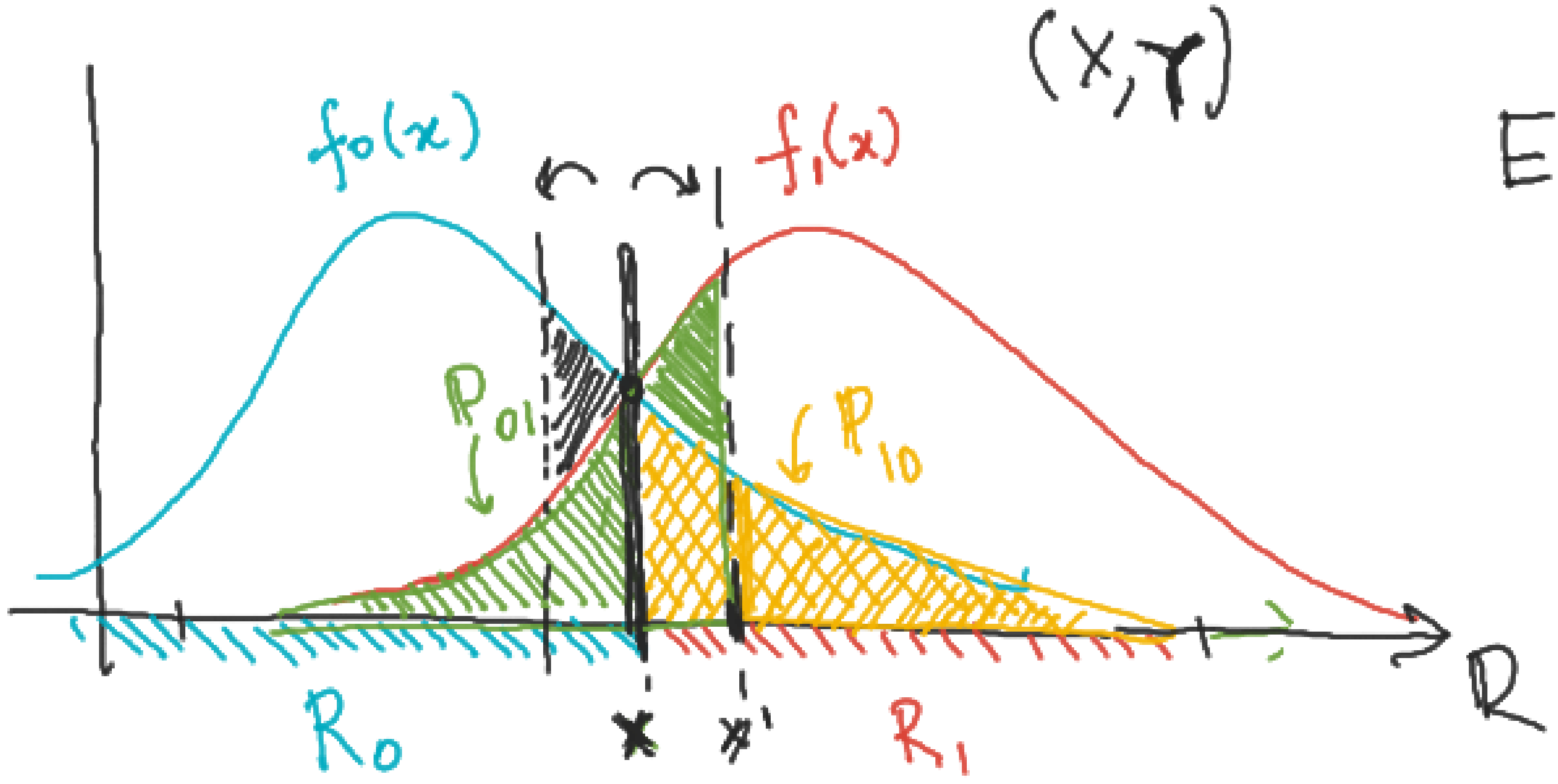
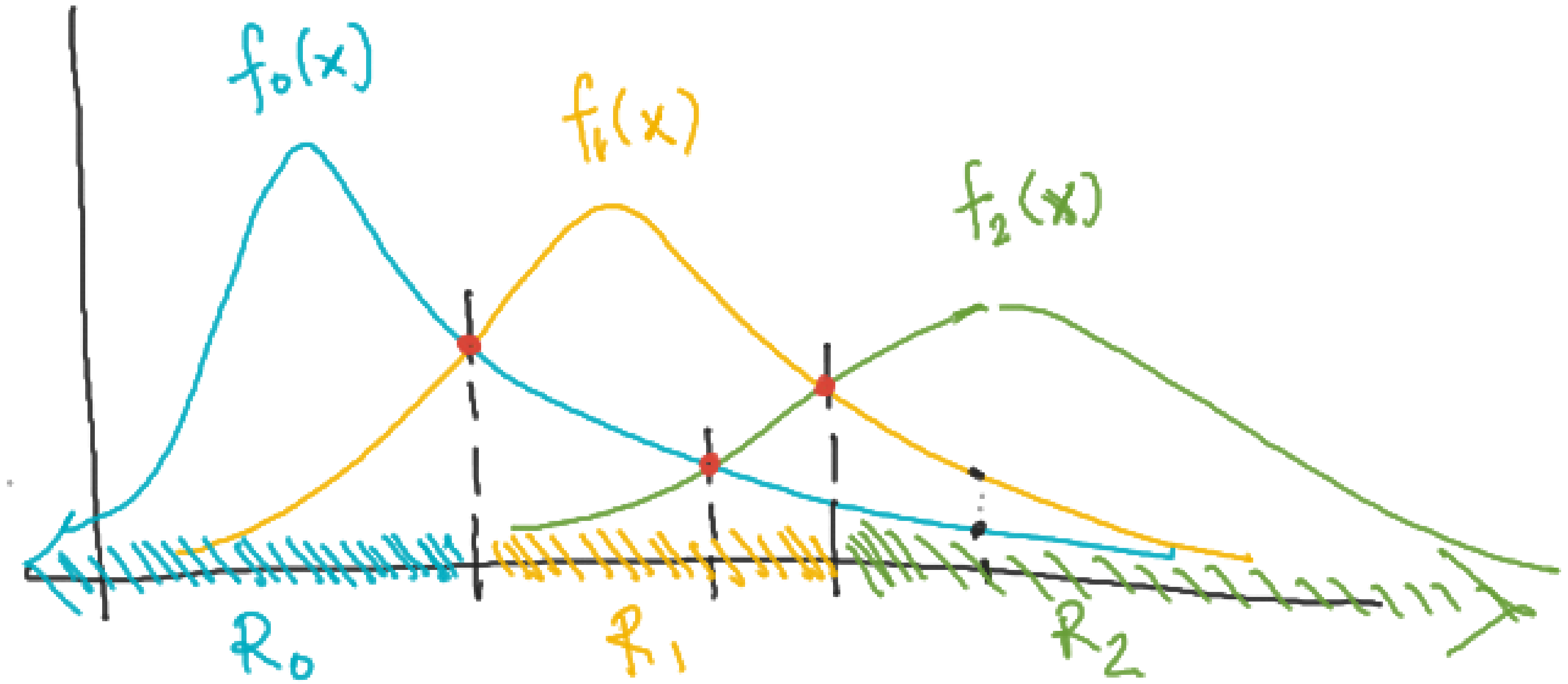
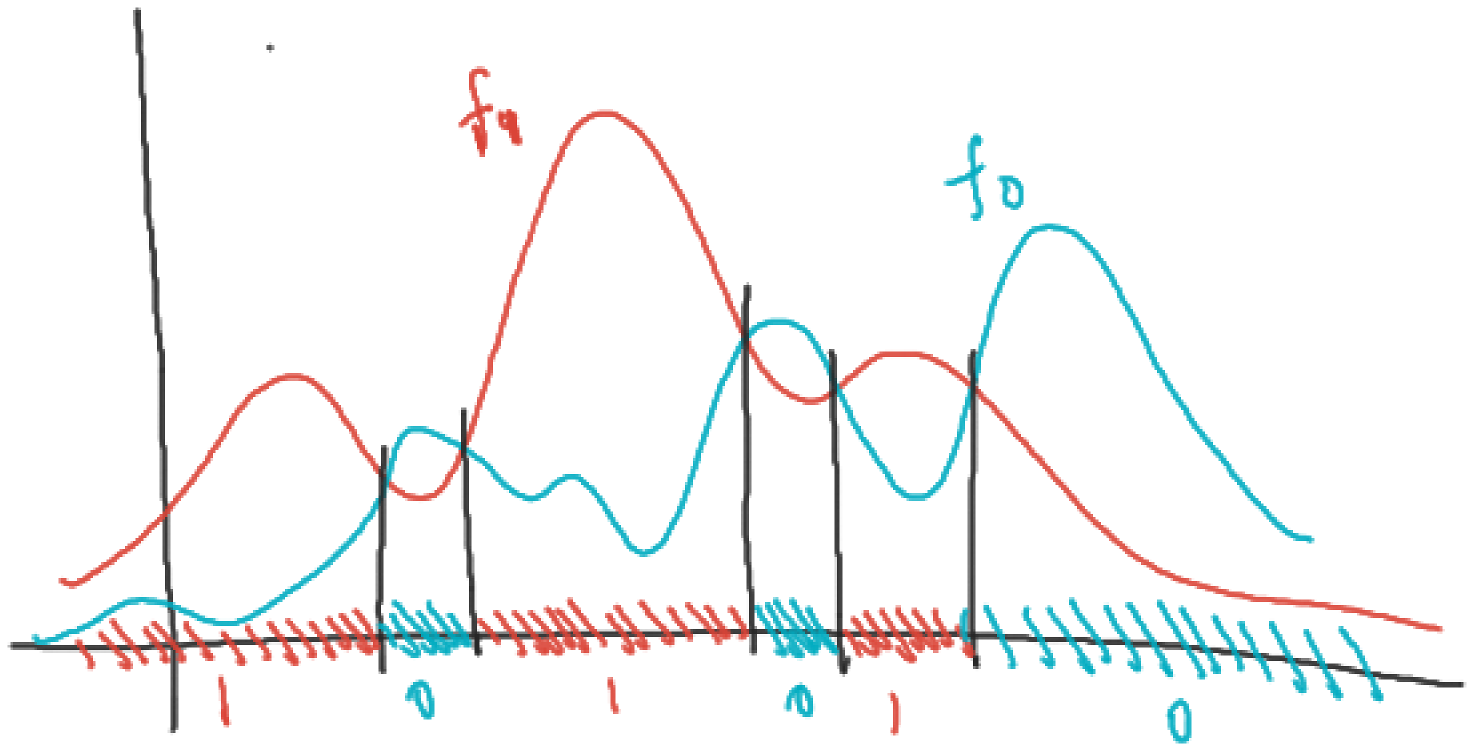
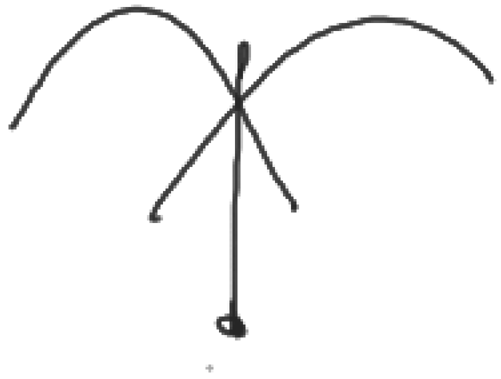


$$\text{Error} = \underset{\mathbb{P}_{10}}{\mathbb{P}(\hat{y}=1 \mid y=0)} + \underset{\mathbb{P}_{01}}{\mathbb{P}(\hat{y}=0 \mid y=1)}$$





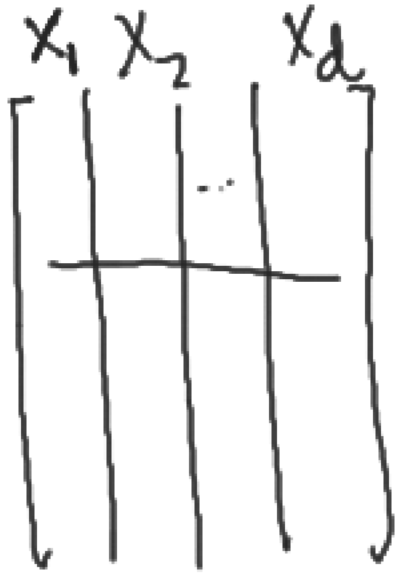
	x_1	x_2	x_3				.	- -	x_4
$\mathbb{P}_0$	:	·	·	/	·				
$\mathbb{P}_1$	✓	·	·	·	✓				
$\mathbb{P}_2$	·	✓	✓	·					



$(\mathbf{x}_i, Y_i)$

$$\mathbf{x}_i = (\underbrace{x_{i1}}_{X_1}, x_{i2}, x_{i3}, \dots, x_{id}) \in \mathbb{R}^d$$

$\mathbb{X} =$



$\mathbf{X}_j$ v.a. independientes

$$\mathbb{P}(y_j \mid \mathbf{X} = \mathbf{x})$$

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

$$\overline{\qquad 12/125 \qquad}$$

$X = (\text{rojo}, \text{SUV}, \text{dom})$ $\qquad$ $\mathbb{P}(y=1 \mid X=x) = 1/4.$