

## EJERCICIOS NAÏVE-BAYES, MOD. GRÁFICOS, K-NN

4.

HUMEDAD	+	-
normal	7	1
alta	3	5

ANTICICLÓN	+	-
si	3	5
no	7	4

$$P(\text{humedad} = \text{normal} | +) \cdot P(\text{anticiclón} = \text{si} | +) \cdot P(+) = \frac{7}{10} \cdot \frac{3}{10} \cdot \frac{10}{16} = 0'1312$$

$$P(\text{humedad} = \text{normal} | -) \cdot P(\text{anticiclón} = \text{si} | -) \cdot P(-) = \frac{1}{6} \cdot \frac{5}{6} \cdot \frac{6}{16} = 0'0521$$

$$\Rightarrow P(+ | \text{humedad} = \text{normal}, \text{anticiclón} = \text{si}) = \frac{0'1312}{0'1312 + 0'0521} = \boxed{0'7158}$$

$$\Rightarrow P(- | \text{humedad} = \text{normal}, \text{anticiclón} = \text{si}) = \frac{0'0521}{0'1312 + 0'0521} = \boxed{0'2842}$$

2.

DÍA	+	-
sol	0	4
nublado	10	2

corrección de  
Laplace

DÍA	+	-
sol	1	5
nublado	11	3

$$P(\text{día} = \text{soleado} | +) P(+) = \frac{1}{12} \cdot \frac{10}{16} = 0'0521$$

$$P(\text{día} = \text{soleado} | -) P(-) = \frac{5}{8} \cdot \frac{6}{16} = 0'2343$$

$$\Rightarrow P(+ | \text{día} = \text{soleado}) = \frac{0'0521}{0'0521 + 0'2343} = \boxed{0'182}$$

$$\Rightarrow P(- | \text{día} = \text{soleado}) = \frac{0'2343}{0'0521 + 0'2343} = \boxed{0'818}$$