

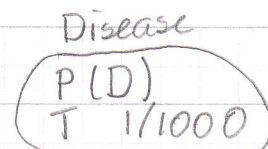
$$P(\alpha|\beta) = \frac{P(\beta|\alpha) P(\alpha)}{P(\beta)}$$

D: has disease
T: positive test
Sökes: $P(D|T)$

$$P(D) = 1/1000$$

$$P(T|\neg D) = 2/100 \text{ false positive}$$

$$P(\neg T|D) = 5/100 \text{ false negative}$$



Test ↓

$$P(T|\neg D) = 2/100$$

$$P(\neg T|D) = 5/100$$

$$P(T) = P(T|D) P(D) + P(T|\neg D) P(\neg D)$$

$$= \frac{95}{100} \cdot \frac{1}{1000} + \frac{2}{100} \cdot \frac{999}{1000} = \frac{2093}{100000}$$

$$P(D|T) = \frac{P(T|D) P(D)}{P(T)} = \frac{95}{100} \cdot \frac{1}{1000} \cdot \frac{100000}{2093} = \frac{95}{2093}$$

$$P(PFW) = P(PFW|PF) P(PF) + P(PFW|\neg PF) P(\neg PF) =$$

$$= 0.9 \cdot 0.1 + 0.05 \cdot 0.9 = 0.135$$

$$P(PF|PFW) = \frac{P(PFW|PF) P(PF)}{P(PFW)} =$$

$$= \frac{0.9 \cdot 0.1}{0.135} = \frac{0.09}{0.135} = 0.666$$

$$P(\neg PFW) = P(\neg PFW|PF) P(PF) + P(\neg PFW|\neg PF) P(\neg PF) =$$

$$= 0.1 \cdot 0.1 + 0.95 \cdot 0.9 = 0.865$$

$$P(PF|\neg PFW) = \frac{P(\neg PFW|PF) P(PF)}{P(\neg PFW)} = \frac{0.1 \cdot 0.1}{0.865} = 0.011560694$$

$$P(M|\neg WL) = P(M|PF, \neg WL) P(PF) + P(M|\neg PF, \neg WL) P(\neg PF) =$$

$$= 0.15 \cdot 0.01156 + 0.001 \cdot (1 - 0.01156) = 0.002722$$



Visste du att vi kan erbjuda examensarbete,
praktikplats, sommarjobb och traineeprogram?

Läs mer på www.trafikverket.se/jobboframtid eller scanna koden!



TRAFIKVERKET