Data Mining 1.12.

Notiztitel 01.12.2003

$P(E|H)$: Wahrscheinl. der Evidenz, wenn die Hypothese gilt
(z.B $P(\text{outlook} = \text{sunny} \wedge \ldots | \text{play} = \text{yes})$)

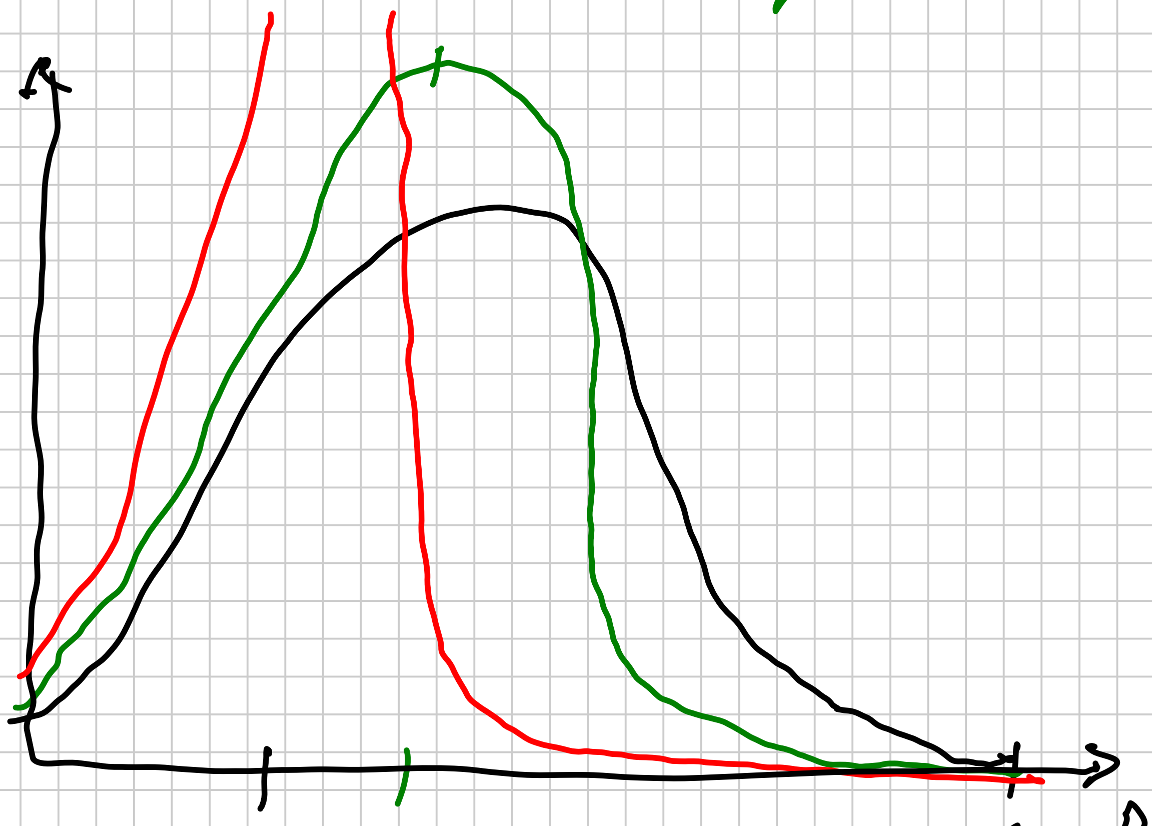
$$P(E|H) = P(E_1 \wedge E_2 \wedge \ldots \wedge E_n | H) = P(E_1|H) \cdot P(E_2|H) \cdot \ldots P(E_n|H)$$

$$P(H_k|E) = \frac{P(E|H_k) \cdot P(H_k)}{P(E)}$$

$$P(E) = P(H_1) \cdot P(E|H_1) + P(H_2) \cdot P(E|H_2) + \ldots P(H_m) P(E|H_m)$$

$$= \sum_{k=1}^{m} P(H_k) \cdot P(E|H_k)$$

verbesserte Schätzung von Wahrscheinlichkeiten

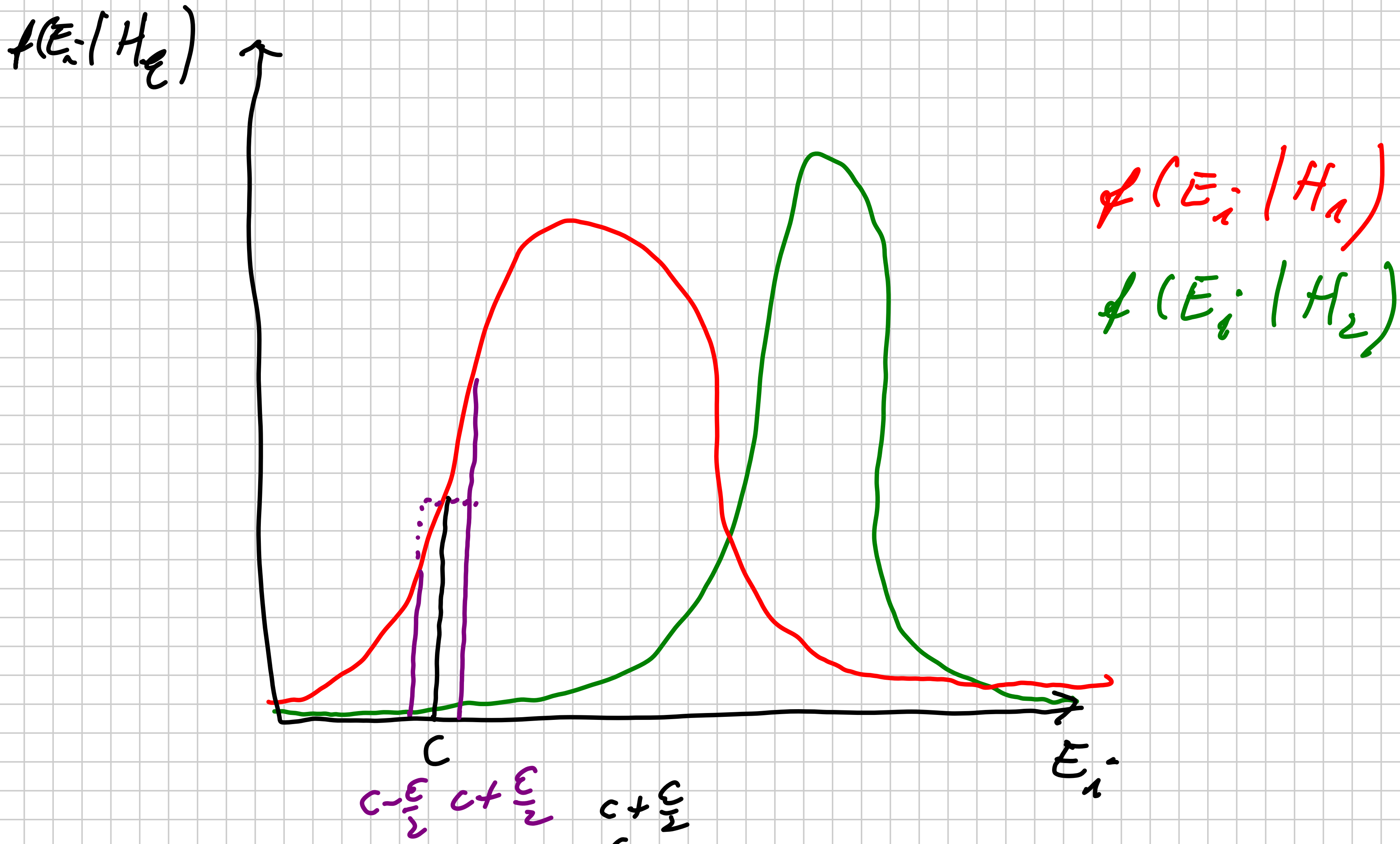


$\rightarrow 0{,}33$

2/10

$$\frac{1+1}{5+1} = \frac{1}{3}$$

$$\frac{2+1}{10+1} = \frac{3}{11} \approx 0{,}29$$



$$P\left(c-\frac{\varepsilon}{2} \le x \le c+\frac{\varepsilon}{2}\right) = \int_{c-\frac{\varepsilon}{2}}^{c+\frac{\varepsilon}{2}} f(t)\,dt \approx f(c)\cdot\varepsilon$$