

IM 14.5.08

Notizite

14.05.2008

Naiver Bayes:

$P(\text{Play}, \text{Outlook}, \text{Windy}, \text{Temperature}, \text{Humidity}) =$

$P(\text{Outlook}|\text{Play}) \cdot P(\text{Temperature}|\text{Play}) \cdot P(\text{Humidity}|\text{Play}) \cdot$

$P(\text{Windy}|\text{Play}) \cdot P(\text{Play})$

Bayes'sches Bsp. - Notzwerk

$= P(\text{Outlook}|\text{Play}) \cdot P(\text{Temperature}|\text{Outlook}, \text{Play}) \cdot$

$P(\text{Humidity}|\text{Temperature}, \text{Play}) \cdot P(\text{Windy}|\text{Outlook}, \text{Play}) \cdot$

$P(\text{Play})$

$P(\text{windy} = \text{true}, \text{outlook} = \text{sunny}, \text{temperature} = \text{cool},$

$\text{humidity} = \text{high}, \text{play} = \text{yes}) =$

$P(\text{windy} = \text{true} | \text{outlook} = \text{sunny}, \text{play} = \text{yes}).$

0,5

$P(\text{outlook} = \text{sunny} | \text{play} = \text{yes}).$

0,238

$P(\text{temperature} = \text{cool} | \text{outlook} = \text{sunny}, \text{play} = \text{yes}).$

0,425

$P(\text{humidity} = \text{high} | \text{temperature} = \text{cool}, \text{play} = \text{yes}).$

0,125

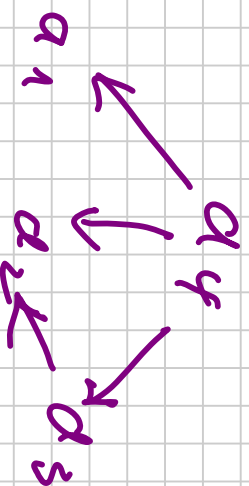
$P(\text{play} = \text{yes})$

0,633

Kettenregel der W.-Rechnung

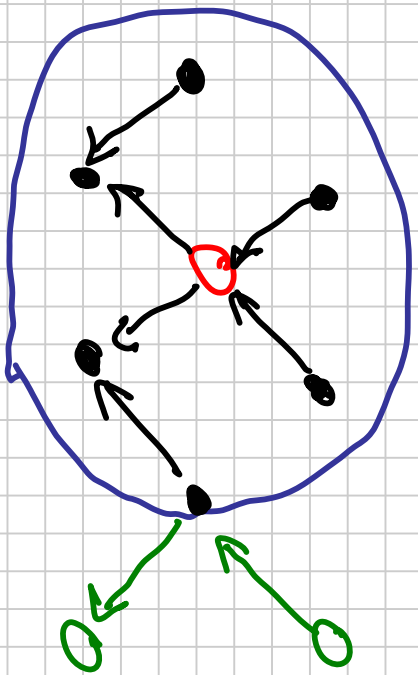
$$P(a_1, a_2, a_3, a_4) = P(a_1/a_2, a_3, a_4) \cdot P(a_2/a_3, a_4) \cdot$$

$$P(a_3/a_4) \cdot P(a_4)$$

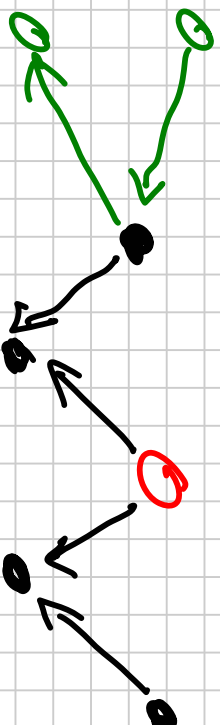


$$P(a_1, a_2, a_3, a_4) = P(a_1/a_4) \cdot P(a_2/a_3, a_4) \cdot P(a_3/a_4) \cdot P(a_4)$$

Markov-Überdeckung



Markov-Überdeckung des Klassenknotens



Knoten außerhalb der Markov-Überdeckung
irrelevant für Klassifikation!

Kreuzvalidierung

$k=3$

