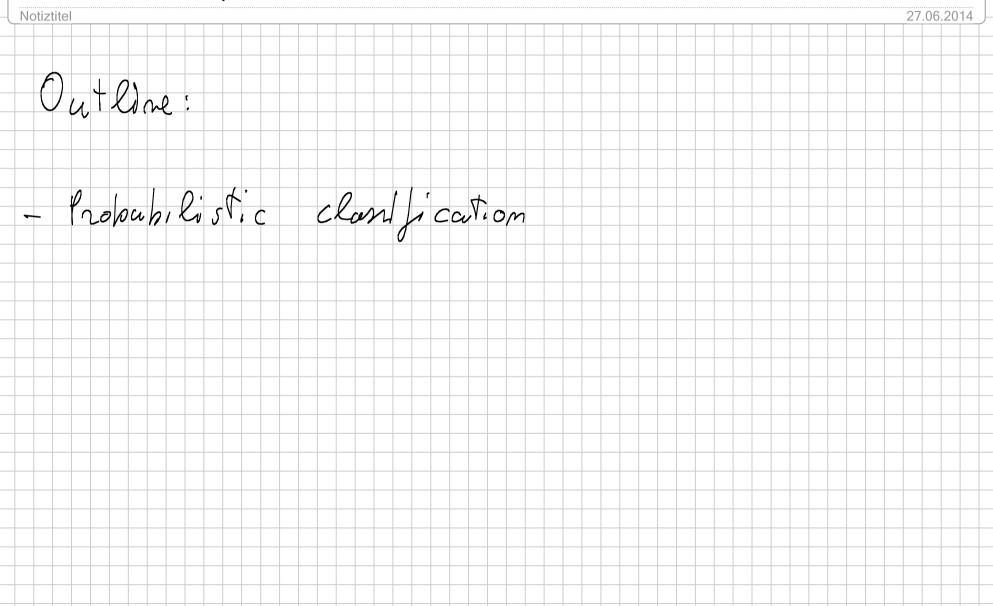
TUTORIAL 10



Exercise (tg. 3.78) (Gaussian) d'stributed vectors: normal W equal for all of log P (W; W.

b)
$$C = I$$
 $P(W_i) = P(W)$
 $\frac{1}{2} = \log P(W) - \frac{1}{2} \log |I| - \frac{1}{2} \left[\sqrt{I} \cdot \sqrt{I} \cdot \sqrt{I} \cdot \sqrt{I} \cdot \frac{1}{2} \right] m_i + \frac{1}{2} m_i \int_{-1}^{1} m_i \cdot \frac{1}{2} m_i \cdot \frac{1}{$

Vector min is the provotype of the i-th class $\frac{\dot{x}}{x} = \frac{\dot{x}}{x}$, $\frac{\dot{x}}{i=1}$ $\frac{\dot{x}}{i}$ The prototype is equal to the mean of all rectors of Exerclse 23 Ded sion function of the Bayer - classifier Probability of a wrong classification " correct then:

$$p(e|\chi) = 1 - p(\Omega_i|\chi)$$
b) $p(e) = \int p(e, y) dy = \int p(e|\chi) \cdot p(y) dy = \int \int [1 - p(\Omega_i|\chi)] p(\chi) dy = \int \int [\Omega_i, \chi] dy$

$$f(x) = \int f(x) dy - \int f(x) (y) dy = \int f(x) (y) dy$$

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 $\Omega_i) p(\Omega_i)$ D; = P | Y / Bayes 1 rom p (2; , 4) 04 014 = error probability is minimised if and only if
the integral in maximised. That is, dis maximsed been chosen as decision function is maximised by the class selected decision function Probability error minimised