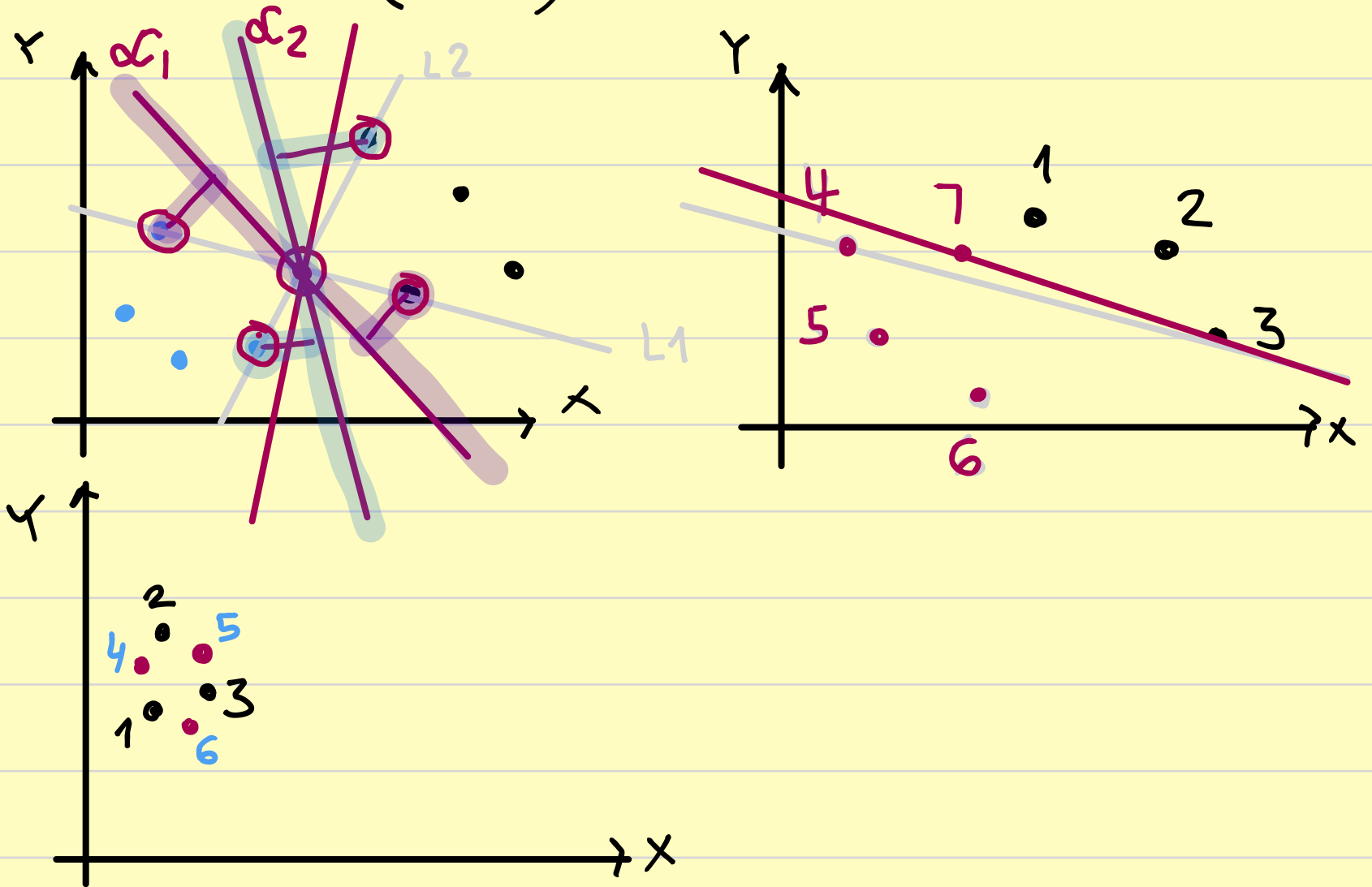


- SVM 2024 12 11 (TABEA)



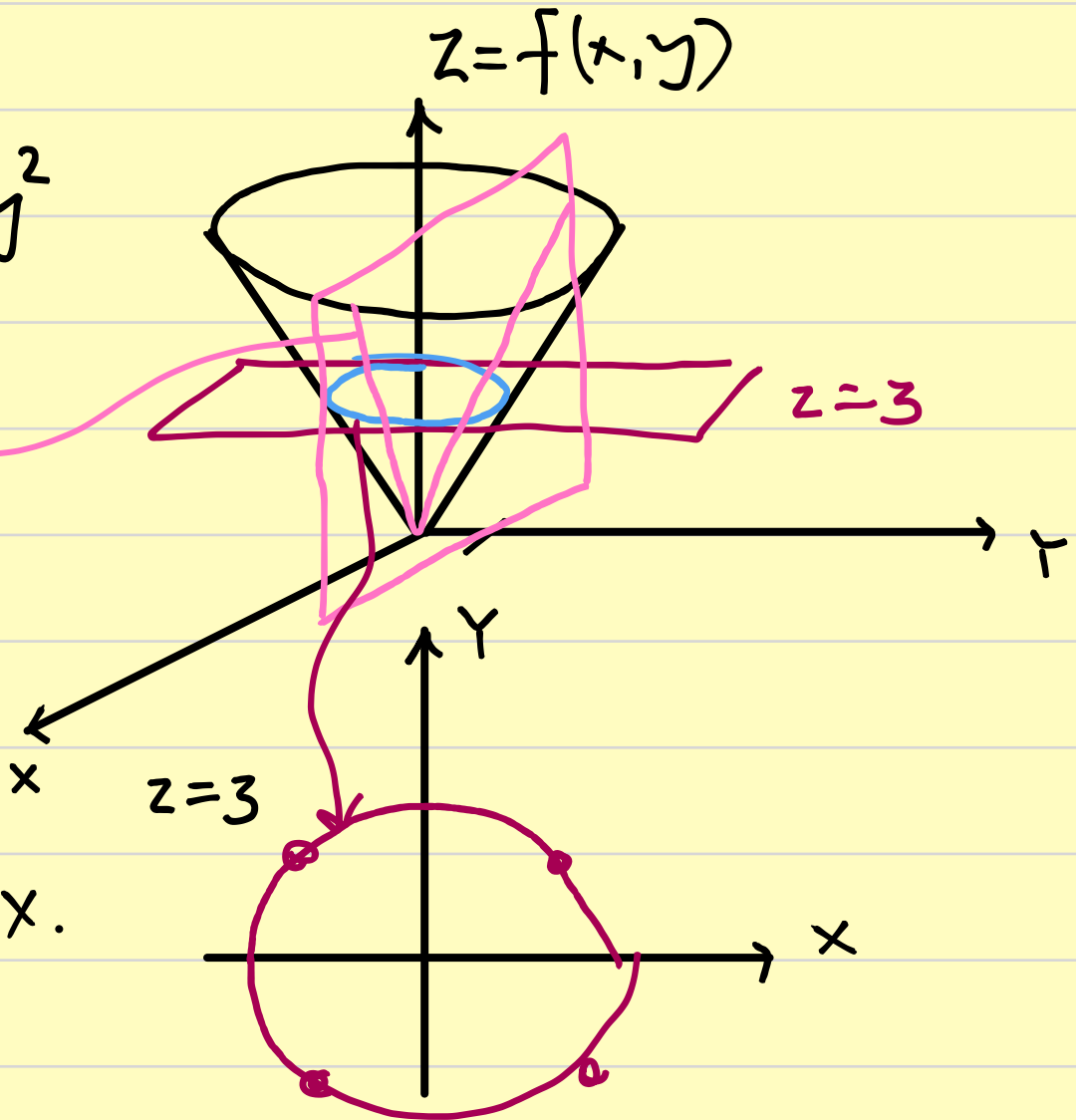
- EOQ Model II

$$f(x, y) = x^2 + 2y^2$$

$$\frac{\partial f}{\partial x} = 2x$$

HIER LASSEN WIR y
KONSTANT UND
FINDEN DIE
STEIGUNG VON f NACH x .

$$\frac{\partial f}{\partial y} = 4y$$



$$\gamma(Q, S) = \frac{hS^2}{2Q} + \frac{AD}{Q} + cD + \frac{p(Q-S)D}{2Q}$$

$$\left. \begin{aligned} \frac{\partial \gamma}{\partial Q} &= \frac{-hS^2}{2Q^2} - \frac{AD}{Q^2} + \frac{p(Q-S)D}{Q} - \frac{p(Q-S)^2D}{2Q^2} \stackrel{Q^*, S^*}{=} 0 & (1) \\ \frac{\partial \gamma}{\partial S} &= \frac{hS}{Q} - \frac{p(Q-S)D}{2Q} \stackrel{Q^*, S^*}{=} 0 & (2) \end{aligned} \right\}$$

$$(2) \rightarrow 2hS^* - p(Q^* - S^*)D = 0 \rightarrow S^*(2h + pD) = pQ^*$$

$$\rightarrow Q^* = S^* \cdot \frac{2h + pD}{p} \rightarrow (1)$$

$$\frac{-hS^{*2}}{2S^{*2} \left(\frac{p(2h+pD)}{p} \right)^2} - \frac{AD}{S^{*2} \cdot \left(\frac{2h+pD}{p} \right)^2} + \frac{p \left(S^* \frac{2h+pD}{p} - S^* \right)}{S^* \frac{2h+pD}{p}} -$$

$$- \frac{p \left(S^* \frac{2h+pD}{p} - S^* \right) \cdot D}{2 \left(S^* \frac{2h+pD}{p} \right)^2} = 0 \rightarrow S^*_{II} = \sqrt{\frac{2AD}{h}} \sqrt{\frac{p}{p+h}}$$

$$Q^*_{II} = \sqrt{\frac{2AD}{h}} \sqrt{\frac{p+h}{p}}$$

• 20241120 . k-Means Cluster.

Daten:

File display

	k1	k2	k3	k4	k5	k6	k7
Umsatz	300	500	450	360	110	90	70
U.-Häufigkeit	60	70	50	40	18	20	10
# Rekl.	10	6	11	8	2	7	3

$$umsatz \rightarrow umeatz^* = \frac{umsatz - \min(umsatzreihe)}{\max(umsatzreihe) - \min(umsatzreihe)}$$

	k_1	k_2	k_3	...	k_7	
$umsatz^*$	$\frac{300-70}{500-70}$	$\frac{500-70}{500-70}$	$\frac{450-70}{500-70}$...	$\frac{70-70}{500-70}$	$[0,1]$
u. Häufigkeit	$\frac{60-10}{70-10}$	$\frac{70-10}{70-10}$	$\frac{50-10}{70-10}$...	$\frac{10-10}{70-10}$	$[0,1]$
# Fehler	$\frac{10-2}{11-2}$	$\frac{6-2}{11-2}$	$\frac{11-2}{11-2}$...	$\frac{3-2}{11-2}$	$\odot [0,1]$

$A \{ k_1, u_2, u_3 \}$ $B \{ k_4, k_5, u_6, u_7 \}$

$$Z_A = \left[\begin{array}{c} umeatz^* \\ \square \end{array} , \begin{array}{c} uH^* \\ \square \end{array} , \begin{array}{c} R^* \\ \square \end{array} \right]$$

$$\frac{\frac{300-70}{500-70} + \frac{500-70}{500} + \frac{450-70}{500-70}}{3} \quad \frac{\frac{60-10}{70-10} + \frac{70-10}{70-10} + \frac{50-10}{70-10}}{3} \quad \frac{\frac{10-2}{11-2} + \frac{6-2}{11-2} + \frac{11-2}{11-2}}{3}$$

$$d_{k_1, A} = \sqrt{\left(\frac{300-70}{500-70} - \square \right)^2 + \left(\frac{60-10}{70-10} - \square \right)^2 + \left(\frac{10-2}{11-2} - \square \right)^2}$$

