Subject :

$$P(m) = P(m_1) \prod_{i=2}^{7} P(m_i | A_i)$$

$P(m_7 | m_6 \dots m_1) = P(m_7 | m_6, m_5)$ و ۲۶ صفحه...

$P(m_6 | m_5 \dots m_1) = P(m_6 | m_4, m_2)$

$P(m_4 | m_3, m_2, m_1) = P(m_4 | m_3, m_2, m_1)$

$P(m_3 | m_2, m_1) = P(m_3)$

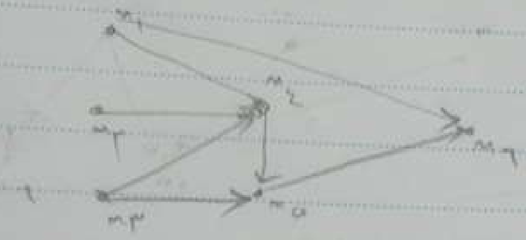
$P(m_2 | m_1) = P(m_2)$

... DAG مربوط را بسازید.

$A_3 = \phi$ ... A_i ... ϕ

$A_2 = \phi$ $A_6 = \{m_4, m_2\}$

$A_4 = \{m_3, m_2, m_1\}$ $A_7 = \{m_6, m_5\}$



۴۰ در DAG ... 2^{2^0} ... $P(m_1 | z_0)$

$P(w_0 | z_0)$ را ... بسازید.

$z = 0$

$P(w_0 | z_0) = 0/V$

$$P(m_1 | z_0) = \frac{P(z_0 | m_1) P(m_1)}{P(z_0)} = \frac{... }{0/52}$$

$P(z_0 | m_1) = P(z_0 | y_1, m_1) P(y_1 | m_1) + P(z_0 | y_0, m_1) P(y_0 | m_1) = ...$

ادامه حل تمرین

$$P(S_0|A_1) = \frac{P(A_1|S_0)\overbrace{P(S_0)}^{\text{۰٫۶}}}{P(A_1)} = \frac{\text{۰٫۶} \times \text{۰٫۱۶۱}}{\text{۰٫۹۶}}$$

$P(A_1) \rightarrow P(A_1|H_1) + P(A_1|H_0) = $ ۰٫۹۶

$$P(A|S_0) = \underbrace{\overbrace{P(A_1|H_1)}^{\text{۰٫۹۵}}\overbrace{P(H_1|S_0)}^{\text{۰٫۱۵}}}_{\text{۰٫۱۵۲۵}} + \underbrace{\overbrace{P(A_1|H_0)}^{\text{۰٫۰۱}}\overbrace{P(H_0|S_0)}^{\text{۰٫۸۵}}}_{\text{۰٫۰۰۸۵}} = \text{۰٫۱۶۱}$$

پس $P(C_1|A_1) = \text{۰٫۴} \times \frac{\text{۰٫۳۸۶} \times \text{۰٫۴}}{\text{۰٫۹۶}} + \text{۰٫۱۱} \times \frac{\text{۰٫۱۶۱} \times \text{۰٫۶}}{\text{۰٫۹۶}}$

$H_1 = $ True

Subject :

Date :

$\Sigma^{-1} = \begin{bmatrix} [illegible] & [illegible] \\ [illegible] & [illegible] \end{bmatrix}$ [illegible]

$\Sigma = \begin{bmatrix} [illegible] & [illegible] \\ [illegible] & [illegible] \end{bmatrix}$ [illegible]

$\mu = [\ldots]^T$

[illegible]

(الف) $d_m^2(\mu_1, x) = (x-\mu_1)^T \Sigma^{-1} (x-\mu_1) =$

$= [\ldots] \begin{bmatrix} [illegible] & [illegible] \\ [illegible] & [illegible] \end{bmatrix} \begin{bmatrix} [illegible] \\ [illegible] \end{bmatrix} = [illegible]$

$d_m^2(\mu_2, x) = (x-\mu_2)^T \Sigma^{-1} (x-\mu_2)$

$= [\ldots] \begin{bmatrix} [illegible] & [illegible] \\ [illegible] & [illegible] \end{bmatrix} \begin{bmatrix} [illegible] \\ [illegible] \end{bmatrix} = [illegible]$

$d_m^2(\mu_3, x) = (x-\mu_3)^T \Sigma^{-1} (x-\mu_3) =$

$= [\ldots] \begin{bmatrix} [illegible] & [illegible] \\ [illegible] & [illegible] \end{bmatrix} \begin{bmatrix} [illegible] \\ [illegible] \end{bmatrix} = [illegible]$

$\min(d_m) = [illegible]$ [illegible]

ب) $\det\left(\begin{bmatrix} [illegible]-\lambda & [illegible] \\ [illegible] & [illegible]-\lambda \end{bmatrix}\right) = \lambda^2 - [illegible]\lambda + [illegible] = 0$

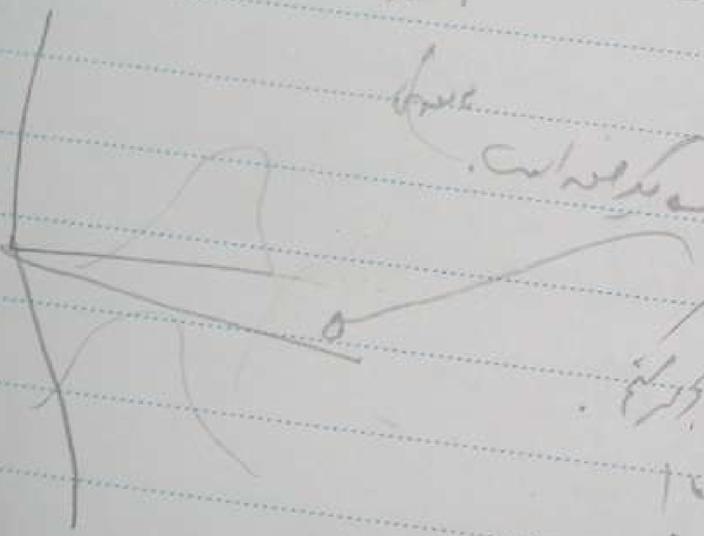
$(\Sigma - \lambda_1 I) v = 0 \rightarrow \begin{pmatrix} [illegible] & [illegible] \\ [illegible] & [illegible] \end{pmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} = 0$

$(\Sigma - \lambda_2 I) v = 0 \rightarrow \begin{pmatrix} [illegible] & [illegible] \\ [illegible] & [illegible] \end{pmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} \rightarrow v_2 = \begin{bmatrix} [illegible] \\ [illegible] \end{bmatrix} = \begin{pmatrix} [illegible] \\ 1 \end{pmatrix}$

$\frac{(x_1 - [illegible])^2}{[illegible]} + \frac{(x_2 - [illegible])^2}{1} = [illegible]$

Date : / /

Subject :



(۸) در یک مسأله [illegible] به ۳۰ سیستم، با توزیع [illegible]

$T_0 = 0.0.0.0$ ... $T_{1,2}$ ...

تابع جداساز خطا [illegible] را پیدا کنید [illegible] است.

تمرین: [illegible]

همه مطالب مهم و [illegible] حل کنید [illegible]