

Podsetnik za prvi kolokvijum - Teorija odlučivanja 2016/2017

Invertovanje

$$x_{ij} = \frac{1}{x_{ji}}$$

Normalizacija

$$L\infty \rightarrow x_{ij} = \frac{x_{ij}}{\max_j(x_{ij})}$$

$$L1 \rightarrow x_{ij} = \frac{x_{ij}}{\sum_j(x_{ij})}$$

$$MAXMIN \rightarrow \frac{x_{ij} - \min_j(x_{ij})}{\max_j(x_{ij}) - \min_j(x_{ij})}$$

Prometej

$$x \rightarrow \max = A - B, \min = B - A$$

$$p(x) = \begin{cases} 0, & x \leq m \\ \frac{x - m}{n - m}, & m < x \leq n \\ 1, & x > n \end{cases}$$

$$T^+ = \text{avg}_i(v_{ij})$$

$$T^- = \text{avg}_j(v_{ij})$$

$$T = T^+ - T^-$$

$$a' > a''$$

$$Q(a') - Q(a'') \geq DQ$$

$$DQ = \min(0,25, \frac{1}{J-1})$$

$$\exists v, a' > a'',$$

$$v \in \{(0,25, 0,75), 1, 0\}$$

Korisnost

$$y = y_0 \left(1 - \frac{x - x_0}{x_1 - x_0}\right) + y_1 \left(1 - \frac{x_1 - x}{x_1 - x_0}\right)$$

F-je korisnosti

$$\max \rightarrow k_i < \frac{M}{2} \rightarrow K(x) = 1 - e^{-\frac{\alpha x}{M}}$$

$$k_i > \frac{M}{2} \rightarrow K(x) = e^{-\frac{\alpha(M-x)}{M}}$$

$$\min \rightarrow k_i < \frac{M}{2} \rightarrow K(x) = e^{-\frac{\alpha x}{M}}$$

$$k_i > \frac{M}{2} \rightarrow K(x) = 1 - e^{-\frac{\alpha(M-x)}{M}}$$

Agregacije kod VATK

$$v(A_i) = \sum_{j=1}^k w_j x_{ij}$$

$$v(A_i) = \prod_{j=1}^k w_j x_{ij}$$

$$v(A_i) = \prod_{j=1}^k x_{ij}$$

PCA

$$\% \text{ var} = \frac{\lambda_i}{\sum(\lambda)}$$

$$w_{\text{nova}} = w_{\text{stara}} * GK$$

$$a_{\text{nova}} = a_{\text{stara}} * GK$$

$$k = \text{kolona}(GK)$$

$$v(a) = \sum_{j=1}^k w_j a_{ij}$$

VAO METODE

$$JAT \rightarrow v(A_i) = \sum_{j=1}^k w_j x_{ij}$$

$$MAXIMIN \rightarrow \max_{i \in A} \min_{j \in K} f(i, j)$$

$$MAXIMAX \rightarrow \max_{i \in A} \max_{j \in K} f(i, j)$$

$$IKOR \rightarrow v * OK + (1 - v) * MAXMIN$$

AHP

1. način

$$x_{ij} = \frac{x_{ij}}{\sum_j(x_{ij})}$$

$$v(X_i) = \text{avg}_i(x_{ij})$$

2. način

$$A_{n+1} = A_n * A_n$$

$$x_{ij} = \frac{x_{ij}}{\sum_j(x_{ij})}$$

$$v(X_i) = \text{avg}_i(x_{ij})$$

Grupni AHP

$$GS_i = \sqrt[n]{\prod_{k=1}^n v_{ik}}$$

$$\bar{x}_i = \frac{\sum_{i=1}^n w_i x_i}{\sum_{i=1}^n w_i}$$

Konzistentnost AHP

1. Odrediti w krit./alt.
2. Pomnožiti svaku j matrice procene w i sum
3. Podeliti dobijeni vektor sa w
4. Izabrati λ_{max} iz 2
5. $CI \rightarrow \frac{\lambda_{max} - n}{n - 1}$
6. $CR \rightarrow \frac{CI}{RI}$

n	3	4	5	6
RI	0,58	0,9	1,12	1,24