Assignment Reduction of Intuitionistic Fuzzy Ordered Decision Information System

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Abstract  Based on intuitionistic fuzzy sets, a new order relation was established by weighting the intuitionistic fuzzy numbers. The intuitionistic fuzzy order decision information system was established by the traditional order relation and the new order relation respectively. Then, on the basis of the definition of assignment function and assignment of coordination sets, judgement theorem for the assignment reduction and discernibility matrix were given in the system. Furthermore, the specific method of assignment reduction was established in an intuitionistic fuzzy ordered decision information system. Finally the effectiveness of the method is verified by an example.

Keywords  Assignment reduction, Intuitionistic fuzzy set, Ordered information system, Rough set

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Atanassov [1983] put forward intuitionistic fuzzy sets, denoted by $I_F(S) = \{ (\mu, \nu) \} \in [0, 1] \times [0, 1]$, where $\mu$ is called the membership function and $\nu$ is the non-membership function of $x \in S$. Dubois et al. [1983] did some further research on intuitionistic fuzzy sets.

Dempster [1968], Shafer [1976] and others proposed the theory of evidence, which can be used to deal with the uncertainty of evidence. The combination of Dempster's method and Shafer's method is the combination of evidence, which can be used to deal with the uncertainty of evidence. The combination of Dempster's method and Shafer's method is the combination of evidence, which can be used to deal with the uncertainty of evidence. The combination of Dempster's method and Shafer's method is the combination of evidence, which can be used to deal with the uncertainty of evidence. The combination of Dempster's method and Shafer's method is the combination of evidence, which can be used to deal with the uncertainty of evidence.

Evidence combination theory can be used to deal with the uncertainty of evidence. The combination of evidence, which can be used to deal with the uncertainty of evidence. The combination of evidence, which can be used to deal with the uncertainty of evidence. The combination of evidence, which can be used to deal with the uncertainty of evidence. The combination of evidence, which can be used to deal with the uncertainty of evidence.

Furthermore, D. Dubois and H. Prade [1980] proposed the concept of weighted evidence, which can be used to deal with the uncertainty of evidence. If each piece of evidence is assigned a weight, then the weight of evidence can be used to deal with the uncertainty of evidence. The weight of evidence can be used to deal with the uncertainty of evidence. The weight of evidence can be used to deal with the uncertainty of evidence. The weight of evidence can be used to deal with the uncertainty of evidence. The weight of evidence can be used to deal with the uncertainty of evidence.

In this paper, we consider a decision information system, which is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U$. A decision information system is a pair $(U, \wp(U))$, where $U$ is a non-empty finite set of objects and $\wp(U)$ is a power set of $U.
$F \cup V \cup AT \cup O \cup D^\circ \cup D = \{ f_i : U \rightarrow V_i, k \leq p \}, \forall i \in \{ 1, \ldots, p \}$
\[ \begin{align*}
G &= (g_{jk} : U \rightarrow V_j, k \leq q \} ; \forall j \in \{ 1, \ldots, q \}
\end{align*} \]

\[ d^\circ \triangleq \{ a \} \]

\[ 2^{[2]} \] \[ I_s = (U, AT \cup \{ d \}, F, G) \]
\[ \cup \] \[ \begin{align*}
f \in F, g \in G, a \in AT \rightarrow x_i \in U, f(x_i) = (\mu, (x_i), \nu(x_i)); g(x_i) \in R(\mu, (x_i), \nu(x_i)) \]
\[ \begin{align*}
\forall \mu, \nu \in [0, 1], \n \mu \cup \nu \geq 0, \mu(x_i) + \nu(x_i) \leq 1, \mu(x_i) \geq \nu(x_i)
\end{align*} \]

\[ \begin{align*}
f(x) &= \{ f(x_i) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
f(a) &= \{ f(x_i) \} ; \forall a \in AT \}
\end{align*} \]

\[ \begin{align*}
T &= \{ x_i \} ; x_i \in \{ 4, 6 \} \]
\[ \begin{align*}
I_r &= \{ (x_i, x_j) \} ; (x_i, x_j) \in R^\circ \}
\end{align*} \]

\[ \begin{align*}
\nu(x) &= \{ \nu(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
\mu(x) &= \{ \mu(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
\gamma(x) &= \{ \gamma(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
\alpha(x) &= \{ \alpha(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
l(x) &= \{ l(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
\delta(x) &= \{ \delta(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
P(x) &= \{ P(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
R^\circ &= \{ (x_i, x_j) \} ; (x_i, x_j) \in R^\circ \}
\end{align*} \]

\[ \begin{align*}
\nu(x) &= \{ \nu(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
\gamma(x) &= \{ \gamma(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
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\[ \begin{align*}
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\end{align*} \]

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\end{align*} \]

\[ \begin{align*}
\delta(x) &= \{ \delta(x) \} ; \forall x \in AT \}
\end{align*} \]

\[ \begin{align*}
P(x) &= \{ P(x) \} ; \forall x \in AT \}
\end{align*} \]
第6期 桑彬彬，等：直觉模糊序决策信息系统的分配约简

系下的直觉模糊序决策信息系统

由于优势关系不同于等价关系

当

4

2

1

0

U

a_{i}

a_{j}

d

\begin{array}{cccc}
    x_1 & a_1 & a_2 & a_3 & d \\
    x_2 & (0, 12, 0.26) & (0, 12, 0.26) & (0, 12, 0.26) & 2 \\
    x_3 & (0, 12, 0.26) & (0, 12, 0.26) & (0, 12, 0.26) & 2 \\
    x_4 & (0, 12, 0.26) & (0, 12, 0.26) & (0, 12, 0.26) & 2 \\
    x_5 & (0, 12, 0.26) & (0, 12, 0.26) & (0, 12, 0.26) & 2 \\
    x_6 & (0, 12, 0.26) & (0, 12, 0.26) & (0, 12, 0.26) & 2 \\
    x_7 & (0, 12, 0.26) & (0, 12, 0.26) & (0, 12, 0.26) & 2 \\
\end{array}
设 $\mathcal{I} \leq \mathcal{I}^* = (\mathcal{U}, \mathcal{A}_T \cup \{d\}, \sigma)$...

下面证明 $\mathcal{I} \leq \mathcal{I}^* = (\mathcal{U}, \mathcal{A}_T \cup \{d\}, \sigma)$...

设 $\mathcal{I} \leq \mathcal{I}^* = (\mathcal{U}, \mathcal{A}_T \cup \{d\}, \sigma)$...

下面证明 $\mathcal{I} \leq \mathcal{I}^* = (\mathcal{U}, \mathcal{A}_T \cup \{d\}, \sigma)$...


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