

Picture Fuzzy Rough Soft Sets – A New Concept for Soft Computing Problems

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Abstract: In this paper, we firstly introduce the notions of picture fuzzy approximation space to construct picture fuzzy rough sets. The concept of picture fuzzy sets (PFS) was introduced in 2013 as an extension of the fuzzy set and the intuitionistic fuzzy set [1-2]. The main aim of this talk is as follows:

- Let us denote $Pap(A)_{Pfas}$ be the set of (l, s) - picture fuzzy rough approximation in Pfas and $Papr_{\tilde{R}_\alpha}(A)$ be the set of α - level picture fuzzy rough approximation of A with α be a picture level.
- If U is an initial universe of objects, E is the set of parameters in relation to objects in U , and $B \subseteq E$ then a pair F, A is called a (l, s) - the picture fuzzy rough soft set of A over U , where F is a mapping given by $F : B \rightarrow Pap(A)_{Pfas}$.
- For the second class, a pair F, A is called a α -level picture fuzzy rough soft set of A over U , where F is a mapping given by $F : B \rightarrow Papr_{\tilde{R}_\alpha}(A)$.
- The new notions are useful to study soft computing problems such as classification, decision making, knowledge discovery in the picture fuzzy information systems [3].

References

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