A study on the Role of Intuitionistic Fuzzy Set in Decision making problems

Abstract

The theory of fuzzy sets [1] proposed by Zadeh has achieved a great success in various fields. Out of several higher order fuzzy sets, the concept of an intuitionistic fuzzy set (IFS) introduced by Atanassov has been found to be highly useful to deal with vagueness/imprecision. IFS theory has been extensively applied to areas like Artificial Intelligence, networking, Soft decision making, Programming logic, operational research etc. One the promising role of IFS has been emerged in Decision making Problems. In some real-life situations, decision makers may not be able to accurately express their view for the problem as they may not possess a precise or sufficient level of knowledge of the problem or the decision makers are unable to discriminate explicitly the degree to which one alternative are better than others in such cases, the decision maker may provide their preferences for alternatives to a certain degree, but it is possible that they are not so sure about it [2]. Thus, it is very suitable to express the decision maker preference values with the use of fuzzy/intuitionistic fuzzy values rather than exact numerical values or linguistic variables [3-6]. To satisfy the need of decision making problem with imprecision and uncertainty many researchers have been concentrated on IFS theory. In this paper we reviewed the development of different approaches for solving decision making
A study on the Role of Intuitionistic Fuzzy Set in Decision making problems

problem using IFS theory.

References

A study on the Role of Intuitionistic Fuzzy Set in Decision making problems

- E. Szmidt and J. Kacprzyk "Concept of Distances and Entropy for Intuitionistic Fuzzy Sets and their Applications in Group Decision Making", Sixth Int. Conf. on IFSs, Varna, NIFS 8 (2002), 3, 11-25.
- Z. Xu, R. R. Yager "Intuitionistic and interval-valued intuitionistic fuzzy preference relations and their measures of similarity for the evaluation of agreement within a group", Fuzzy Optimization and Decision Making Volume 8 Issue 2, June 2009 123 - 139.
A study on the Role of Intuitionistic Fuzzy Set in Decision making problems

- L. Lin, XH. Yuan, ZQ. Xia, "Multicriteria fuzzy decision-making methods based on
- G. Wu and Wei, ”GRA method for multiple attribute decision making with
A study on the Role of Intuitionistic Fuzzy Set in Decision making problems


Index Terms

Computer Science Fuzzy Systems

Keywords

Intuitionistic Fuzzy Sets (ifs) Multicriteria Decision Making (mcdm)