A New Similarity Measure for Intuitionistic

Fuzzy Sets and Its Applications

Liyuan Zhang, Xuanhua Xu and Xiaohong Chen

Central South University

Abstract

In this paper, considering the notion of intuitionistic fuzzy set (IFS), a new similarity measure and a weighted similarity measure between IFSs are proposed. Then, we prove some properties of the proposed method, we also use several examples to compare the new similarity measure with the existing similarity measures. Numerical results show that our method is much simpler and more efficient than the existing methods. Finally, the new similarity measure is applied to multi-attribute decision-making and pattern recognition.

Keywords: Intuitionistic fuzzy set, similarity measure, pattern recognition, fuzzy multi-attribute decision-making.