Abstract

In this article, we would like to deal with the new architecture of Simplified Fuzzy ARTMAP which can be contributed to the extended definition of complementation of Fuzzy sets on the basis of reference function. Simplified Fuzzy ARTMAP potentially has great value in decision support applications. The extended definition of complementation is based on the fact that Fuzzy membership function and Fuzzy membership value for the complement of a Fuzzy set are two different things. On the basis of this extended definition of complementation, we have already established a new Similarity Measure for Fuzzy sets and also we have shown its effectiveness in Medical Diagnostic reasoning together with the verification of the results obtained from its application with the help of traditional Hamming Distance and Euclidean Distance measures. In this paper, our aim is to show the effectiveness of the new architecture of Simplified Fuzzy ARTMAP in supporting Medical Diagnostic reasoning. We shall apply the new Simplified Fuzzy ARTMAP to evaluate the same data, we used to show the effectiveness of the new Similarity Measure in Medical Diagnostic reasoning and validate the obtained results with the help of already verified results of the new Similarity Measure.
The New Architecture of Simplified Fuzzy ARTMAP for Supporting Medical Diagnostic Reasoning


Index Terms

Computer Science
Fuzzy Systems
Keywords
Fuzzy set  Complement of a Fuzzy set  Fuzzy membership value  Fuzzy membership function
Fuzzy reference function
Similarity measure
Simplified Fuzzy ARTMAP
Medical Diagnostic reasoning.