

Abstract

Decision Tree Learning is one of method that is often to use for data classification. The speciality of this method is that it can build a model from learning the given data train. The Popular algorithm for decision tree learning method is Iterative Dychotomizer Version 3 (ID3). ID3 can classify categorical data by building decision tree using entropy and information gain value. But there are many continuous type of data in the real world so that required a little bit different technique to handle. Fuzzy value can be implemented in the ID3 algorithm for handling continuous type of data. So that continuous data will be converted to fuzzy membership degree value regarding their linguistic value. Probabilistic Fuzzy Decision Tree (PFDT) will add another requirement that sum of every membership function must be equal to one. The requirement of sum of every membership function must be equal to one is called well-defined sample space. By applying well-defined sample space so that the formed membership function is get better. The result of this research shows that the accuracy we get from both datasets using PFDT method are 94.67% and 85.72% respectively.

Keywords: Decision Tree, Probabilistic Fuzzy, Classification, ID3