

An optimized clustering algorithm using genetic algorithm and rough set theory based on kohonen self organizing map

Abstract

The Kohonen self organizing map is an efficient tool in exploratory phase of data mining and pattern recognition. The SOM is a popular tool that maps high dimensional space into a small number of dimensions by placing similar elements close together, forming clusters. Recently, most of the researchers found that to take the uncertainty concerned in cluster analysis, using the crisp boundaries in some clustering operations is not necessary. In this paper, an optimized two-level clustering algorithm based on SOM which employs the rough set theory and genetic algorithm is proposed to defeat the uncertainty problem. The evaluation of proposed algorithm on our gathered poultry diseases data and Iris data expresses more accurate compared with the crisp clustering methods and reduces the errors.