World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:14, No:10, 2020

Using Genetic Algorithms and Rough Set Based Fuzzy K-Modes to Improve Centroid Model Clustering Performance on Categorical Data

Authors : Rishabh Srivastav, Divyam Sharma

Abstract : We propose an algorithm to cluster categorical data named as 'Genetic algorithm initialized rough set based fuzzy K-Modes for categorical data'. We propose an amalgamation of the simple K-modes algorithm, the Rough and Fuzzy set based K-modes and the Genetic Algorithm to form a new algorithm,which we hypothesise, will provide better Centroid Model clustering results, than existing standard algorithms. In the proposed algorithm, the initialization and updation of modes is done by the use of genetic algorithms while the membership values are calculated using the rough set and fuzzy logic.

Keywords : categorical data, fuzzy logic, genetic algorithm, K modes clustering, rough sets
Conference Title : ICSCAIA 2020 : International Conference on Soft Computing, Artificial Intelligence and Applications
Conference Location : Tokyo, Japan
Conference Dates : October 05-06, 2020