

On New RBF Neural Network Construction Algorithm for Classification

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Abstract: The proposed method to construct a Radial Basis Function (RBF) neural network classifier is based on the use of a new algorithm for characterizing the hidden layer structure. This algorithm, called HNEM-k-means, groups the training data class by class in order to calculate the optimal number of clusters in each class, using new global and local evaluations of the partitions, obtained by the k-means algorithm. Two examples of data sets are considered to show the efficiency of the proposed approach and the obtained results are compared with previous existing classifiers.

Keywords: Radial Basis Function neural network, classification, k-means, validity indexes.