

Abstract

Khaled Mahar

An Evolutionary Connectionist Fuzzy System for Multispectral Data Classification

in this paper, numerical exemplars are used in a training method to find the structure of a fuzzy-neural network. after this structure learning, a genetic algorithm is applied to determine the initial weights of the neural network, thereby guiding the neural network to a near optimal initialization. these well-initialized networks are then trained with backpropagation algorithm. using this proposed approach, the local minimum phenomenon, which may cause the learning process to stagnate, can be avoided. overall learning performance is, thus, significantly improved. the proposed method has been implemented tested on the thematic mapper sensor system (tm) data to get the fractional representation of each class within a pixel. results show the potential of the proposed method for this kind of applications