

Optimization of parameters of neuro-fuzzy model

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Abstract

Copyright © 2020 Institute of Advanced Engineering and Science. All rights reserved. The need for increasing the efficiency of the neuron-fuzzy model in the formation of knowledge bases is being updated. The task is to develop methods and algorithms for presetting and optimizing the parameters of a fuzzy neural network. To solve difficult formalized tasks, it is necessary to develop decision support systems - expert systems based on a knowledge base. ES developers are constantly faced with the problems of "extraction" and formalization of knowledge, as well as the search for new ways to obtain it. To do this, use the extraction, acquisition and formation of knowledge. Currently, the formation of knowledge bases is relevant for the creation of hybrid technologies - fuzzy neural networks that combine the advantages of neural network models and fuzzy systems. The analysis of the efficiency of the fuzzy neural network carried out in the work showed that the quality of training of the NN largely depends on the choice of the number of fuzzy granules for input drugs. In addition, to use fuzzy information formalized by the mathematical apparatus of fuzzy logic, procedures are required for selecting optimal forms and presetting the parameters of the corresponding membership functions (MF).

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Keywords

Fuzzy, Logic, Network, Programming, System

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