عنوان مقاله:

Fault Detection and Identification of High Dimension System by GLOLIMOT

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خلاصه مقاله:

The Local Model Network (LMN) is one of the common structures to model systems and fault detection and identification. This structure covers the disadvantages of training in fuzzy systems and interpretations in neural networks at the same time. But the algorithms that have been introduced to create LMN, such as LOLIMOT, are very sensitive to the dimension of input space. In other words, the search space and the number of network parameters are increased exponentially by increasing the input dimension, which is called the curse of dimensionality. Therefore in this paper, the LMN structure has been developed, and a new incremental algorithm has been proposed which is based on Genetic algorithm and LOLIMOT algorithm that is called GLOLIMOT. The proposed idea reduces the search space dimension and also optimizes it. The proposed idea and the traditional structure are tested on single-shaft industrial gas turbine prototype model, which has high complexity and high dimension. The results indicate improvement in performance of the proposed structure and algorithm.

کلمات کلیدی:

LMN, LOLIMOT, Genetic Algorithm, GLOLIMOT, FDI

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