



Training a Neural Network Using Hierarchical Genetic Algorithm for Modeling and Controlling a Nonlinear System of Water Level Regulation

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Abstract: In this paper, we present a new approach of Hierarchical Genetics Algorithms (HGA), and the improvement brought compared to the backpropagation algorithm for the simultaneous determination of the structure and the learning of a Multilayer Perceptron (MLP). The neural model found by the two methods are employed separately in a non-linear system for water level regulation. A comparison study will therefore be presented.

Keywords: *hierarchical genetic algorithms; neural networks; backpropagation algorithm; training; multilayer perceptron; optimization; modeling and controlling; non-linear systems.*

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