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Abstract

In this paper, a new architecture combining dynamic neural units and fuzzy logic approaches is proposed for a complex chemical process modeling. Such processes need a particular care where the designer constructs the neural network, the fuzzy and the fuzzy neural network models which are very useful in black box modeling. The proposed architecture is specified to

the pH chemical reactor due to its large existence in the real industrial life and it is a realistic dynamic nonlinear system to demonstrate the feasibility and the performance of the founding results using the fuzzy dynamic neural units. A comparison was made between four strategies, the fuzzy modeling, the recurrent neural networks, the dynamic recurrent neural networks and the fuzzy dynamic neural units.

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Computer Science

Index Terms

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