An Improved BP Algorithm Based on A Variant Sigmoid Function with Three Parameters

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ABSTRACT

This paper presents a novel approach in the design of neural networks with sigmoid transfer function trained by the back-propagation algorithm. First, the artificial neural networks and back-propagation algorithm are introduced briefly. Second, a variant sigmoid function with three parameters is proposed, and then the improved BP algorithm based on it is educed and discussed. Finally, a compared testing with the activity prediction of herbicide is given.

Keywords: Artificial neural networks, Back-propagation (BP), sigmoid transfer functions