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Orthogonal Basis Extreme Learning Algorithm and Function Approximation

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Abstract : A new algorithm for single hidden layer feedforward neural networks (SLFN), Orthogonal Basis Extreme Learning (OBEL) algorithm, is proposed and the algorithm derivation is given in the paper. The algorithm can decide both the NNs parameters and the neuron number of hidden layer(s) during training while providing extreme fast learning speed. It will provide a practical way to develop NNs. The simulation results of function approximation showed that the algorithm is effective and feasible with good accuracy and adaptability.

Keywords : neural network, orthogonal basis extreme learning, function approximation
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