

Efficient Parallel Learning Algorithms for Neural Networks

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Abstract: Parallelizable optimization techniques are applied to the problem of learning in feedforward neural networks. In addition to having superior convergence properties, optimization techniques such as the Polak-Ribiere method are also significantly more efficient than the Backpropagation algorithm. These results are based on experiments performed on small boolean learning problems and the noisy real-valued learning problem of hand-written character recognition.