Training Neuarl Network with Partical Swarm Optimization

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Abstract

Feed-forward networks are one of the most used neural networks in various domains because of their universal approximation capability. One of the popular algorithms for training multilayer feed-forward network is back-propagation which uses two phase namely feed-forward and bacl-propagate to learn the weight in the network. The main disadvantage of the back-propagation algorithm is its convergence rate is slow at it always being trapped in local minima.Particle swarm optimization (PSO) is a kind of Swarm Intelligence algorithm that has many successful applications in optimization. Unlike back-propagation which used local search, PSO use global search technique. It is an adaptive algorithm based on a social psychological metaphor; a population of individual adats by returning stochastically toward previously successful regions in the search space, and is influence by the successes of their topological neighbors. This paper presents the design, implementation and result for training neural network and result for training neural network with PSO and BP.