Locate the parameters of RBF networks using a hybrid Particle Swarm Optimization method

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Abstract

The present paper proposes a two-phase technique for training RBF neural networks. In the first phase, a hybrid algorithm combining interval techniques and particle swarm optimization is used to detect the initialization interval of the neural network parameters. In the second phase, a hybrid algorithm that conjucts particle swarm optimization and local minimization is used to train the neural network within the space identified in the first phase. This technique is evaluated on a number of regression and classification datasets from the relevant literature.