

ABSTRACT:

This paper proposes an adaptive evolutionary radialbasisfunction (RBF) network algorithm to evolve accuracy and connections (centers and weights) of RBF networks simultaneously. The problem of hybrid learning of RBF network is discussed with the multi-objectiveoptimization methods to improve classification accuracy for medicaldiseasediagnosis. In this paper, we introduce a timevariantmulti-objectiveparticleswarmoptimization (TVMOPSO) of radialbasisfunction (RBF) network for diagnosing the medicaldiseases. This study applied RBF network training to determine whether RBF networks can be developed using TVMOPSO, and the performance is validated based on accuracy and complexity. Our approach is tested on three standard data sets from UCI machine learning repository. The results show that our approach is a viable alternative and provides an effective means to solve multi-objective RBF network for medicaldiseasediagnosis. It is better than RBF networkbased on MOPSO and NSGA-II, and also competitive with other methods in the literature.