

Abstract

Artificial Neural network (ANN) is a method that suitable for classification problem. Multi Layer Perceptron (MLP) is ANN based on its architecture, meanwhile, Cuckoo Search (CS) is optimization algorithm, introduced by Dr. Xin-She Yang and Suash Deb, about December 2009, that's based on [8] its CS can be implemented for learning algorithm with good result. This algorithm was used Lévy Flights theorem in its process.

From experiment result, CS was produced accuracy average: training 94.71%, validation 87.74%, & testing 84.70% for 1st scenario (60% training data : 20% validation data : 20% testing data), accuracy average: training 95.79%, validation 82.67%, & testing 81.03% for 2nd scenario (33.33% training data : 33.33% validation data : 33.33% testing data), accuracy average: training 95.86%, validation 81.93%, & testing 80.75% for 3rd scenario (30% training data : 30% validation data : 40% testing data). Based on experiment result, CS as alternative algorithm for learn MLP is produce promising result. Other things that can be conclude is data preprocessing very influential toward output result. Good data will be easy to setting up CS parameter so CS can meet "best solution" & "fast" in period of time. Beside that, poor preprocessing will be produce poor accuracy result.

Keywords: classification, mlp, cuckoo search, lévy flights