Artificial Bee Colony Optimization based Negative Selection Algorithms to Classify Iris Plant Dataset

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Abstract

This paper presents a new technique for classification of data. Artificial Immune System is the best technique to classify the data. Three main algorithms came under Artificial Immune System are - (1) Clonal selection algorithms (CLONALG), (2) Negative selection algorithms (NSA), (3) Artificial immune networks (AINE). Negative selection algorithms is one of the best technique to classify the data. NSA works in two phases Training and Testing. Training is an optimization task so it is required to get the optimal value. In tradition training process NSA have some drawbacks like local minima and computational complexity. So to overcome this problem optimized data is to be used. Many optimization algorithms have been investigated, Artificial Bee Colony (ABC) optimization algorithm is one of the best algorithm.

The proposed hybrid ABC and NSA can be applied to improve the global convergence behavior of the algorithm. The experimental results focus on Iris dataset plant and show that the proposed algorithm is more effective in classification of iris dataset when compared with other approaches. This method is more effective for random search and an effective hybridized
method for artificial immune system optimization problem.

References


**Index Terms**

Computer Science

Artificial Intelligence

**Keywords**

Artificial Bee Colony optimization algorithm, Clonal Selection Algorithm, Negative selection algorithm, IRIS Plant Dataset.