Proposing a New Method to Improve Feature Selection with Meta-Heuristic Algorithm and Chaos Theory

Abstract

Finding a subset of features from a large data set is a problem that arises in many fields of study. It is important to have an effective subset of features that is selected for the system to provide acceptable performance. This will lead us in a direction that to use meta-heuristic algorithms to find the optimal subset of features. The performance of evolutionary algorithms is dependent on many parameters which have significant impact on its performance, and these algorithms usually use a random process to set parameters. The nature of chaos is apparently random and unpredictable; however it also deterministic, it can suitable alternative instead of random process in meta-heuristic algorithms.

References

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Index Terms

Computer Science

Algorithms

Keywords

Feature selection, Classification, Meta-heuristic algorithm, Binary particle swarm optimization, Chaos theory.