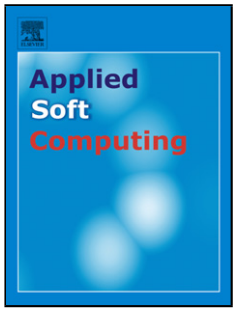

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PII: S1568-4946(17)30372-1
DOI: http://dx.doi.org/doi:10.1016/j.asoc.2017.06.029
Reference: ASOC 4298

To appear in: *Applied Soft Computing*

Received date: 23-5-2016
Revised date: 13-6-2017
Accepted date: 15-6-2017

Please cite this article as: Hui Wang, Wenjun Wang, Laizhong Cui, Hui Sun, Jia Zhao, Yun Wang, Yu Xue, A Hybrid Multi-Objective Firefly Algorithm for Big Data Optimization, *<![CDATA[Applied Soft Computing Journal]]>* (2017), http://dx.doi.org/10.1016/j.asoc.2017.06.029

A Hybrid Multi-Objective Firefly Algorithm for Big Data Optimization

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Abstract

Multi-objective evolutionary algorithms (MOEAs) have shown good performance on many benchmark and real world multi-objective optimization problems. However, MOEAs may suffer from some difficulties when solving big data optimization problems with thousands of variables. Firefly algorithm (FA) is a new meta-heuristic, which has been proved to be a good optimization tool. In this paper, we present a hybrid multi-objective FA (HMOFA) for big data optimization. A set of big data optimization problems, including six single objective problems and six multi-objective problems, are tested in the experiments. Computational results show that HMOFA achieves promising performance on all test problems.

Keywords: Firefly algorithm (FA), multi-objective firefly algorithm, multi-objective optimization, big data optimization

1. Introduction

Big data is a term for data sets that are so large and complex that it becomes very difficult to process by using traditional data processing applications [1]. It is known

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