Abstract

This paper proposes ideas to create hybrid optimization algorithms that combines strengths of SFLA or PSO with strengths of GA, DE or BA. While SFLA or PSO can find optimal solutions quickly because of directive searching and exchange of information, GA, DE or BA has higher random that make it easily escape from local optima to find global solutions. Thus, hybrid algorithms are able to find optimal solutions quickly like SFLA or PSO and escape from local optima like GA, DE or BA. A hybrid SFL-Bees algorithm has illustrated for these ideas. Numerical simulations carried out have shown the effectiveness of the proposed algorithm, its ability to achieve good quality solutions and processing time, which outperforms the SFLA and BA.

References


Centre, Cardiff University, Cardiff CF24 3AA, UK.


**Index Terms**

Computer Science  
Algorithms

**Keywords**

Optimization, Hybrid, PSO, SFLA, GA, DE, BA.