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## Recombinative CLA-EC

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### Abstract

Cellular Learning Automata (CLA) which is obtained by combining cellular automata (CA) (LA) models is a mathematical model for dynamical complex systems that consists of a large number of learning components. CLA-EC, introduced recently is an evolutionary algorithm which is a combination of CLA and evolutionary computation (EC). In this paper CLA-EC with recombination operator is proposed. Recombination increases explorative behavior of CLA-EC and also provides a mechanism for exchange between chromosomes of population individuals that standard CLA-EC is not capable of. This modification greatly improves CLA-EC ability to effectively search solution space and Experimental results on five optimization test functions show the superiority of this new version of CLA-EC.

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