



# Autonomous operator management for evolutionary algorithms

Submitted by Emmanuel Lemoine on Mon, 10/06/2014 - 17:49

Titre	Autonomous operator management for evolutionary algorithms
Type de publication	Article de revue
Auteur	Maturana, Jorge [1], Lardeux, Frédéric [2], Saubion, Frédéric [3]
Editeur	Springer Verlag
Type	Article scientifique dans une revue à comité de lecture
Année	2010
Langue	Anglais
Date	2010/12/01
Numéro	6
Pagination	881 - 909
Volume	16
Titre de la revue	Journal of Heuristics
ISSN	1381-1231 / 1572-9397
Mots-clés	Adaptive search [4], Algorithm design [5], Artificial Intelligence (incl. Robotics) [6], Calculus of Variations and Optimal Control; Optimization [7], Hyper-heuristics [8], Operations Research, Mathematical Programming [9], Operations Research/Decision Theory [10], Parameter control [11]
Résumé en anglais	<p>The performance of an evolutionary algorithm strongly depends on the design of its operators and on the management of these operators along the search; that is, on the ability of the algorithm to balance exploration and exploitation of the search space. Recent approaches automate the tuning and control of the parameters that govern this balance. We propose a new technique to dynamically control the behavior of operators in an EA and to manage a large set of potential operators. The best operators are rewarded by applying them more often. Tests of this technique on instances of 3-SAT return results that are competitive with an algorithm tailored to the problem.</p>
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua4296">http://okina.univ-angers.fr/publications/ua4296</a> [12]
DOI	10.1007/s10732-010-9125-3 [13]
Lien vers le document	<a href="http://dx.doi.org/10.1007/s10732-010-9125-3">http://dx.doi.org/10.1007/s10732-010-9125-3</a> [13]

---

## Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=7534](http://okina.univ-angers.fr/publications?f[author]=7534)
- [2] <http://okina.univ-angers.fr/frederic.lardeux/publications>
- [3] <http://okina.univ-angers.fr/frederic.saubion/publications>
- [4] [http://okina.univ-angers.fr/publications?f\[keyword\]=8808](http://okina.univ-angers.fr/publications?f[keyword]=8808)
- [5] [http://okina.univ-angers.fr/publications?f\[keyword\]=8809](http://okina.univ-angers.fr/publications?f[keyword]=8809)

- [6] [http://okina.univ-angers.fr/publications?f\[keyword\]=6729](http://okina.univ-angers.fr/publications?f[keyword]=6729)
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=8789](http://okina.univ-angers.fr/publications?f[keyword]=8789)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=8810](http://okina.univ-angers.fr/publications?f[keyword]=8810)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=8792](http://okina.univ-angers.fr/publications?f[keyword]=8792)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=6022](http://okina.univ-angers.fr/publications?f[keyword]=6022)
- [11] [http://okina.univ-angers.fr/publications?f\[keyword\]=8811](http://okina.univ-angers.fr/publications?f[keyword]=8811)
- [12] <http://okina.univ-angers.fr/publications/ua4296>
- [13] <http://dx.doi.org/10.1007/s10732-010-9125-3>

Publié sur *Okina* (<http://okina.univ-angers.fr>)