Special Issue on Evolutionary Algorithms based on Probabilistic Models
IEEE Transactions on Evolutionary Computation

AIM & SCOPE

Evolutionary algorithms based on probabilistic models (EAPM) have been recognized as a new computing paradigm in evolutionary computation. There is no traditional crossover or mutation in EAPMs. Instead, they explicitly extract global statistical information from their previous searches and build a probability distribution model of promising solutions, based on the extracted information. New solutions are then sampled from the model thus built. Instances of EAPMs include estimation of distribution algorithms, probabilistic model building genetic algorithms, ant colony optimization, and the cross entropy method, to name just a few. Recent years have seen a growing interest in the research and application of EAPMs. As an interdisciplinary research area, the development of EAPMs needs joint effort from researchers and practitioners in evolutionary computation, machine learning, statistics and simulation. The aim of this special issue is to be a milestone event in the development of EAPMs, which will highlight the recent development of EAPMs, clarify outstanding issues for future progress, and disseminate EAPMs to a wider audience to attract more researchers to EAPMs.

TOPICS COVERED

Suggested topics include (but are not limited to) the following:

- Theory of EAPMs,
- New EAPMs,
- Combination of machine learning techniques and EAPMs,
- Combination of statistics techniques and EAPMs,
- Combination of other heuristics and EAPMs,
- EAPMs for multiobjective optimization problems,
- EAPMs in dynamic and noisy environments,
- Parallel implementation of EAPMs,
- Real-world/novel applications.

SUBMISSIONS

Manuscripts should be prepared according to the instructions of the "Information for Authors" section of the journal founded at (*http://ieee-cis.org/pubs/tec/authors/*) and submission should be done through the journal website: *http://tevcieee.manuscriptcentral.com/* and clearly mark **"Special Issue on EAPM"** as comments to the editor-in-chief.

Submission of a manuscript implies that it is the authors' original unpublished work and is not being submitted for possible publication elsewhere.

The review process will be driven by the Guest Editors of this Special Issue and the Editor-in-Chief, Prof. Xin Yao. For any clarification please contact Jose A. Lozano, Qingfu Zhang or Pedro Larrañaga at the addresses below.

IMPORTANT DATES

- July 31, 2007, Submission deadline
- November 30, 2007, Notification of the first review
- January 31, 2008, Revised versions due
- March 30, 2008, Final notice of acceptance/reject
- April 30, 2008, Final manuscript.

The expected publication year of the special issue will be 2008.

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