

IEEE Transactions on Evolutionary Computation

Special Issue on Parallel Evolution for Large Scale Optimization

I. AIM AND SCOPE

Human societies have entered a new era of intelligent technology, where machines, information, and humans are tightly coupled in the large scale cyber-physical-social spaces (CPSS). As a result, a lot of large-scale problems, such as optimization and learning, are emerging with the aim to explore and exploit of the physical world, mental world and virtual world. With the dramatic advances in big data analytics, communications, computing and data storage, it is expected that Evolutionary Computation (EC), as a powerful approach to complex problems, would play an even more important role in CPSS. This could be achieved through advances in several aspects, such as developing more powerful EC techniques for large-scale optimization problems, bridging EC and emergent techniques in CPSS (e.g., the theory and methods of parallel systems) to offer new mechanisms for managing and controlling complex systems that involve complexity issues of both engineering and social dimensions, and building large-scale evolution systems that are capable of describing, predicting and prescribing the evolution of real-world complex systems. This special issue aims at promoting the development of EC in the above aspects.

II. THEMES

Researchers are encouraged to submit their latest investigations on EC, either fundamental advances or practical cases, for large-scale problems as well as systems to the special issue. In addition to advancements of EC for large-scale optimization, learning and other challenging problems that arise in complex systems, research on building large-scale evolutionary systems for simulation, management and control of cyber-physical-social systems are most welcome as well.

Topics of interest include (but are not limited to):

- Evolutionary Computation for Large-Scale Optimization Problems;
- Evolutionary Computation for Large-Scale Learning Problems;
- Evolutionary Computation for Complex Systems;
- Evolutionary Computation for Optimal Management and Control in CPSS;
- Theoretical Analysis on Evolutionary Computation for Large-Scale Problems and Systems;
- Adaptation and Learning Mechanisms for large-scale evolutionary systems;
- Parallel Evolutionary Computation Techniques;
- New Implementation Technologies of Evolutionary Computation for Emerging Large-Scale problems;
- New Trends for Evolutionary Computation in Large Scale Optimization.

III. SUBMISSION

Manuscripts should be prepared according to the “Information for Authors” section of the journal found at <http://cis.ieee.org/ieee-transactions-on-evolutionary-computation/>.

Please submit your manuscript in electronic form through: <http://mc.manuscriptcentral.com/tevc-ieee/>, by selecting “PEforLSO Special Issue Papers” as the *Manuscript Type*. Also, please indicate “PEforLSO Special Issue Paper” in the comments to the Editor-in-Chief.

Submitted papers will be reviewed by at least three different experts. Submission of a manuscript implies that it is the authors’ original unpublished work and is not being submitted for possible publication elsewhere.

IV. IMPORTANT DATES

Submission open: May 15, 2018

Submission deadline: November 1, 2018

Tentative publication date: 2019

For further information, please contact one of the following Guest Editors.

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