



New Challenges in Algorithms/Design/Process Optimization with Symmetry/Asymmetry

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Deadline for manuscript
submissions:

closed (30 September 2024)

Message from the Guest Editors

Dear Colleagues,

Symmetry and asymmetry are important concepts in algorithm optimization as they can help in improving the efficiency and effectiveness of algorithms. Here are some ways in which symmetry and asymmetry can be utilized for algorithm optimization:

1. Symmetry exploitation;
2. Symmetry breaking;
3. Asymmetry detection;
4. Asymmetric data structures;
5. Exploiting symmetry in parallel computing;

In conclusion, symmetry and asymmetry play vital roles in algorithm optimization. By appropriately leveraging symmetry or breaking it when necessary, algorithms can improve efficiency, convergence speed, and the quality of solutions. Similarly, utilizing asymmetric properties or structures can lead to optimized algorithms in terms of time and space complexity.





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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