Special Issue

Graph Algorithms and Graph Theory

Message from the Guest Editor

Graphs have applications in numerous areas of computer science, including machine learning, computational biology, social network analysis, and many others that require fast algorithms for various optimization problems. Recent advances in graph theory have shown that most graphs exhibit structural properties or symmetry that can be leveraged for the development efficient algorithms. Expanding our fundamental knowledge of graphs is therefore crucial to improve the state-of-the-art in the design and analysis of algorithms. This Special Issue aims to improve our understanding of the interplay between algorithms, structure, and symmetry in graphs. The scope of the Special Issue includes, but is not limited to: • the design and analysis of graph algorithms, parallel, randomized, parameterized, distributed, and other types of algorithms; • structural graph theory with immediate or potential applications in algorithms and complexity analysis.

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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.

Editor-in-Chief

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