Special Issue

Algorithms in Complex Networks

Message from the Guest Editors

To analyze the topological characteristics of such networks—sometimes called graphs in mathematical community—numerous algorithms have been proposed in recent years. Typical examples are the Dijkstra algorithm for distance calculation between pair of nodes, the clique percolation algorithm for community detection, and the k-core algorithm for hierarchical decomposition. Although there are enormous algorithms that have been designed by both academic and industry researchers to date, new algorithms and strategies for studying the topological characteristics and dynamical behaviors of networks are still urgently needed—mainly due to the growing network scale and complexity of dynamical behaviors. This Special Issue plans to give an overview of the most recent advances in the field of complex networks. This Special Issue is aimed at providing selected contributions on advances in detecting the topological characteristics of complex networks, modeling the structures and functional behaviors of complex networks, control and synchronization of complex networks, and applications of network-based approaches and algorithms.

Guest Editors

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Deadline for manuscript submissions

closed (15 September 2022)

Algorithms

an Open Access Journal by MDPI

Impact Factor 2.1
CiteScore 4.5

mdpi.com/journal/algorithms

About the Journal

Message from the Editor-in-Chief

Algorithms are the very core of Computer Science. The whole area has been considered from quite different perspectives, having led to the development of many sub-communities: Complexity theory (limitations), approximation or parameterized algorithms (types of problems), geometric algorithms (subject area), metaheuristics, algorithm engineering, medical imaging (applications), indicates the range of perspectives. Our journal welcomes submissions written from any of these perspectives, so that it may become a forum for exchange of ideas between the corresponding scientific subcommunities.

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