Special Issue

Algorithmic Innovations: Bridging Theoretical Foundations and Practical Applications

Message from the Guest Editors

This Special Issue, "Algorithmic Innovations: Bridging Theoretical Foundations and Practical Applications", invites high-quality contributions that explore the design, analysis, and application of novel algorithms. Its aim is to unify diverse computational approaches—ranging from theoretical models to real-world deployments—across fields such as sensor networks, artificial intelligence, robotics and mechatronics, healthcare systems, and smart environments. We welcome submissions that demonstrate methodological rigor and practical relevance, particularly those that address optimization under constraints, performance analysis, or cross-disciplinary integration. Studies that leverage metaheuristics, neural network-based models, or algorithmic frameworks for emergent applications such as IoT, smart healthcare, environmental monitoring, and resilient networks are especially encouraged. This Special Issue also aligns with the *Algorithms* journal's mission to support reproducibility and interdisciplinary impact. As such, detailed methodological documentation and openly shared resources (e.g., source code, datasets) are highly encouraged.

Guest Editors

Prof. Dr. Carolina Del Valle Soto

Academy of Computing, School of Engineering, Universidad Panamericana, Álvaro del Portillo 49, Zapopan 45010, Mexico

Prof. Dr. Ramiro Velázquez

School of Engineering, Universidad Panamericana, Josemaría Escrivá de Balaguer 101, Aguascalientes 20296, Mexico

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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.

Editor-in-Chief

Prof. Dr. Frank Werner
Faculty of Mathematics, Otto-von-Guericke-University, P.O. Box 4120, D-39016 Magdeburg, Germany

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