

Special Issue

Applications of Optimization Algorithms and Evolutionary Computation

Message from the Guest Editors

This Special Issue aims to bring together original research and comprehensive review articles that explore the mathematical foundations, theoretical modeling, algorithmic developments, and wide-ranging applications of optimization algorithms and evolutionary computation. A central focus is on contributions that bridge the gap between advanced machine learning methodologies such as deep learning, reinforcement learning, generative adversarial networks, transformer-based architectures, and evolutionary or nature-inspired algorithms, including but not limited to genetic algorithms, differential evolution, swarm intelligence, and bio-inspired metaheuristics. We particularly welcome submissions that propose novel hybrid frameworks, enhance convergence behavior, improve generalization, or offer mathematically grounded performance guarantees. This Special Issue is intended as a platform to showcase cutting-edge advances in intelligent optimization and to foster cross-disciplinary research that advances both theoretical insight and practical impact in real-world computational systems.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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