Special Issue

Advances in Machine Learning and Mathematical Modeling for Optimization Problems

Message from the Guest Editors

Machine learning and deep learning have made tremendous progress over the last decade and have become the de facto standard across a wide range of image, video, text, and sound processing domains, from object recognition to image generation. More recently, deep learning and deep reinforcement learning have begun to develop end-to-end training to solve more complex and combinatorial optimization problems. These methods also sometimes include classic search and optimization algorithms to machine learning, such as Monte Carlo Tree Search in AlphaGO. This Special Issue focuses on recent advances in machine learning and mathematical modeling for optimization problems. Topics include but are not limited to: 1. Machine learning for optimization problems
2. Statistical learning
3. End-to-end machine learning
4. Graph neural networks
5. Combining classic optimization algorithms and machine learning
6. Mathematical models of problems for machine learning
7. Optimization method for machine learning
8. Evolutionary computation and optimization problems
9. Applications such as scheduling problems, smart cities, etc.

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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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