Gradient Methods for Optimization

Guest Editor:

Dr. Zebang Shen
Institute for Machine Learning,
ETH Zurich, 8092 Zürich,
Switzerland

Deadline for manuscript submissions:
closed (28 February 2023)

Message from the Guest Editor

Gradient-based algorithms, among numerous competitors, are the most successful, both theoretically and empirically, due to their low per-iteration cost and fast convergence rate, notable examples including the gradient descent and its momentum accelerated variants for convex optimization, the Frank–Wolfe algorithms, the Alternating Direction Method of Multipliers (ADMM) for constrained optimization, and the stochastic gradient descent for non-convex optimization, just to name a few.

We invite you to submit high-quality papers to the Special Issue on "Gradient Methods for Optimization", with subjects covering the whole range from theory to algorithms. The following is a (non-exhaustive) list of topics of interest:

1. Optimization methods and theories for convex, submodular, and non-convex problems.
2. Optimization in more abstract domains such as the probability manifold.
3. Optimization for min–max problems.
4. Optimization methods for federated learning.

Special Issue

Editor-in-Chief

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

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.

Author Benefits

Open Access : free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, ESCI (Web of Science), Ei Compendex, and other databases.
Journal Rank: JCR - Q2 (*Computer Science, Theory and Methods*) / CiteScore - Q1 (Numerical Analysis)

Contact Us