Special Issue

New Advances in Distributed Systems, Edge Intelligence, and Artificial Intelligence

Message from the Guest Editors

This Special Issue intends to inform readers of the latest advances in distributed systems, edge intelligence, and artificial intelligence with a mathematical lens, highlighting the transformative influence that these technologies exert on the rapidly changing digital landscape of today. As concerns **distributed systems**, we focus on the latest advancements in architectural optimization, fault tolerance and resource management. These advancements rely heavily on sophisticated mathematical models to enable efficient large-scale data processing and service delivery. **Edge intelligence** integrates cloud computing and IoT, leveraging advanced mathematical models to facilitate real-time data processing and analysis. **Artificial intelligence** continues to make significant strides in algorithm optimization, model training and knowledge graph construction, contributing to positive changes in various industries. We explore the algorithmic innovations, intelligent services, and ethical considerations within distributed and edge computing environments. We invite scholars in related fields to share their valuable contributions to the Special Issue.

Guest Editors

Dr. Xiaoming Yuan

Dr. Lei Liu

Dr. Yulan Gao

Deadline for manuscript submissions

30 September 2025

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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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