Special Issue

Deep Learning Algorithms and Game Theory Models for Intelligent Information Processing and Decision-Making

Message from the Guest Editors

Over the past decade, while deep learning algorithms excel in data-rich tasks (e.g., image recognition, translation), extending AI capabilities to data-scarce, multi-agent, and dynamically adversarial environments remains a critical frontier. Game theory models—grounded in strategic decision-making—provide the mathematical rigor to navigate these complexities, enabling AI systems to optimize interactions in competitive or cooperative settings. This Special Issue aims to showcase cutting-edge advancements in computer vision, deep learning, and AI, with a focus on integrating game theory for enhanced decision-making. Topics of interest include, but are not limited to, the following:

- Deep Learning with Limited Data
- nsupervised Deep Learning Technology
- Game Theory Models for Strategic AI
- Knowledge Graphs for Decision Explainability
- Neural Rendering and Simulation
- Deep Reinforcement Learning with Game-Theoretic Incentives
- Language–Vision–Action Integration
- Industrial AI with Strategic Optimization
- Deep Learning for Medical Image Analysis
- Deep Learning for Efficient Detection and Segmentation
- LLM-Driven Multi-Agent Systems
- Ethical AI via Mechanism Design

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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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