Special Issue

AI-Driven Fractal Models for Complex Systems

Message from the Guest Editors

Complex systems often exhibit fractal-like properties, such as self-similarity and scale invariance, which reveal hidden patterns in their structure and dynamics. This Special Issue explores the intersection of fractal models and AI techniques—such as reinforcement learning, graph neural networks, and generative models—to improve our understanding of and ability to predict the behaviour of complex systems. By integrating fractal analysis with AI, we aim to uncover multi-scale patterns, enhance predictive capabilities, and develop innovative tools for modelling the evolving dynamics of areas like social behaviour, community detection, and network analysis. We encourage contributions that bridge fractal theory with emerging AI techniques, particularly graph representation learning, decision-making methods, generative models, and large language models (LLMs), fostering interdisciplinary advancements in the study of complex systems in the new AI era.

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About the Journal

Message from the Editor-in-Chief

Fractal and Fractional (*Fractal Fract.*) is a scholarly online journal which provides a forum for discussion on new original models and methods in fractals and fractional calculus both from theory and applications. It is a peer-reviewed, open access journal that publishes high quality original research articles, review papers and short communications.

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