Special Issue

Fractal Approaches and Machine Learning in Financial Markets

Message from the Guest Editor

Fractal approaches provide a powerful framework to study scaling laws, multifractality, and self-similarity in financial time series, offering deeper insights into volatility clustering, market efficiency, and systemic risk. At the same time, machine learning techniques have advanced rapidly, enabling researchers to uncover hidden structures, forecast market movements, and design adaptive trading and risk management strategies. This Special Issue invites contributions that combine **fractal methodologies** and **machine learning models** to address fundamental and applied questions in finance. Potential topics include, but are not limited to, fractal and multifractal analysis of asset prices, machine learning-based volatility and risk prediction, hybrid models integrating fractal features with deep learning, applications to portfolio optimization and asset pricing, and the use of fractal-inspired learning algorithms in financial decision-making. By bridging theory and practice, this issue aims to highlight the synergies between fractal approaches and machine learning, offering novel perspectives on the behavior and dynamics of global financial markets.

Guest Editor

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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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