

Special Issue

Advances, Challenges, and Applications of Deep Learning Models in Computer Vision and Image Processing and Analysis

Message from the Guest Editors

Deep learning (DL) models have gained crucial importance in the field of machine learning, especially in the research areas of computer vision and image processing and analysis. Despite numerous obstacles facing DL models, such as the need for massive amounts of labeled data, high training costs, scale, translation and rotation invariance in object recognition, adversarial attacks, and their increasing mathematical complexity, recent advances continue to push DL models forward, addressing one or more of the aforementioned challenges. These advances include more robust convolutional neural networks, recurrent neural networks, generative adversarial networks, capsule neural networks, novel deep transfer learning techniques, vision transformers, and hybrid DL architectures, among others. This Special Issue calls for original research articles and reviews that contribute to the latest advances and applications of DL models in computer vision and image processing and analysis, particularly those focused on real-world problems, as well as articles that explore the challenges of DL models along with trends and ways to address them.

Guest Editors

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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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