Special Issue

Advances in Optical Imaging and Deep Learning

Message from the Guest Editors

Recent advancements in optical imaging technologies, combined with the power of deep learning, have revolutionized fields such as medical imaging, remote sensing, materials science, and microscopy. Deep learning algorithms have shown remarkable success in improving image quality, enhancing resolution, and automating complex image analysis tasks that were previously labor-intensive or impossible. The integration of deep learning in optical imaging enables more precise feature extraction, segmentation, classification, and detection, thereby expanding the capabilities of optical imaging systems. This Special Issue aims to bring together state-of-the-art research and innovative approaches that combine optical imaging techniques with deep learning models. We invite original research papers, reviews, and case studies that explore novel deep learning algorithms for optical image processing, improvements in hardware-software integration, real-time applications, and interdisciplinary solutions in areas such as healthcare, biology, and industrial monitoring.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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