Special Issue

Machine Learning in Photonics: Progress, Challenges, and Future Prospects

Message from the Guest Editors

In recent decades, machine learning has brought transformative advances across various scientific domains, and especially to Photonics and Optics. In these disciplines, where light acts as an information carrier, the introduction of machine learning methodologies has emerged as a cornerstone that fundamentally enhances our capabilities for feature detection and characterization, elevating the resolution, speed, and quality of optical systems and even facilitating the generation of data across various modalities. This Special Issue aims to present insights and breakthroughs from leading experts working in the multidisciplinary field of machine learning and Photonics. Potential topics for this Special Issue include, but are not limited to, the following:

- Machine learning for optical imaging systems.
- Deep learning.
- Super resolution.
- Cross-modality image generation.
- Biomedical engineering.
- Optical diagnostics.
- Remote sensing.
- Biomedical imaging.
- Marine particle sensing.

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Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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