Special Issue

Optical Computing and Optical Neural Networks

Message from the Guest Editors

The current exponentially growing data volume demands computing power that grows apace. Artificial intelligence based on neural networks has achieved great success in solving complex problems involving the processing of huge amounts of data. Optical and photonic neural networks are alternative solutions to electronics, exploiting the high parallelisms from the nature of light to enhance the computing speed and power efficiency with parallel computing. The study of optical neural networks is important to the exploration of the related methods, designs, systems, and training algorithms to improve the performance when solving complex problems. Optical neural networks are an essential part of optical computing, and potentially provide solutions in low-latency and real time data processing. This Special Issue aims to present the recent advanced research in optical neural networks with different schemes within the topic of non-von Neumann computing. The implementations can be in free-space, fiber-optics, and photonic integrated circuits.

Guest Editors

Dr. Bin Shi

Dr. Apostolos Tsakyridis

Dr. Miltiadis Moralis-Pegios

Deadline for manuscript submissions

closed (15 August 2024)

hv

Photonics

an Open Access Journal by MDPI

Impact Factor 1.9
CiteScore 3.5

mdpi.com/si/156263

Photonics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
photonics@mdpi.com

mdpi.com/journal/photonics

MDPI

Photonics

an Open Access Journal by MDPI

Impact Factor 1.9
CiteScore 3.5

mdpi.com/journal/photonics

MDPI

About the Journal

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.

Editor-in-Chief

Prof. Dr. Nelson Tansu
School of Electrical and Electronic Engineering (EEE), The University of Adelaide, Adelaide, SA 5005, Australia

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q2 (Instrumentation)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.8 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the first half of 2025).