Special Issue

Neuromorphic Photonics: Current Devices, Systems and Perspectives

Message from the Guest Editors

With deep learning (DL)-enabled AI being all-present in the widest spectrum of fields, challenges related to throughput, latency, and energy and footprint efficiency need to be addressed by future-proof solutions. At the same time, migrating from traditionally used digital electronics to photonics challenges the existing DL architectures and training algorithms by imposing new constraints, but also opening new possibilities through nonlinearities and architectures unique for photonic domain. The focus of this Special Issue is multifold, from photonic devices that can enable a leap in photonic neural network (PNN) performance or provide new functionalities, through novel systems for addressing a variety of NNs and their layers, up to training algorithms that are adapted to the photonic hardware fabric and address the unique challenges that arise in neuromorphic photonics. Both original research papers and review articles are welcome. Open for Submissions: https://www.mdpi.com/journal/applsci/special_issues/neuro morphic_photonics

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Message from the Editor-in-Chief

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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