Special Issue

Advances in Photonic Neural Networks and Neuromorphic Computation

Message from the Guest Editor

Brain-like computing has shown great advantages such as strong processing performance, simultaneous processing of multiple signals, and a low power consumption. According to research, the adult brain can perform 1016 operations per second on average, and the energy required to perform these operations is only about 20 watts. Although the information processing technology based on microelectronics spiking neural networks has made great achievements, it has encountered bottlenecks as regards energy consumption and speed. The optical platform has great advantages in the field of information processing due to its unique advantages, including fast speed, large bandwidth, and low power consumption. Therefore, neural-like information processing based on the photonic spiking neural network has gradually become a frequently discussed research topic in recent years. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Photonic neuromorphic systems;
- Photonic spiking neural networks;
- Information processing of neural-like properties;
- Synaptic-like properties.

Guest Editor

Dr. Yahui Zhang
College of Communication Engineering, Xidian University, Xi'an 710126, China

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

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

Editor-in-Chief

Prof. Dr. Flavio Canavero
Department of Electronics and Telecommunications, Politecnico di Torino, 10129 Torino, Italy

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