Special Issue

Applications of Resource Efficient Machine Learning in Smart Sensors

Message from the Guest Editors

In cloud-based machine learning (ML) applications, inference and learning occur in the cloud. However, due to a growing number of more powerful edge devices, together with certain privacy concerns and low latency requirements, there is a movement to transfer the information and part of the learning to areas near the sensors. Since sensors also increasingly include local processing capabilities, a part of the information can even shift to the sensors themselves. Such smart sensors will process all raw data locally and only transmit meaningful results. This trend is supported by the increase in offerings of commercially available ML processing cores, with different performance levels for various applications, including small devices such as for IoT and even dedicated processors designed for battery-powered operation. This Special Issue aims to gather the latest results pertaining to novel, resource-efficient ML algorithms used in smart sensors for smart city, healthcare, industry 4.0, precision farming, and smart transportation applications.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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