Special Issue

Learning-Based Multi-Sensor Data Fusion for Mobile Robots

Message from the Guest Editors

Traditional and unconventional sensors technologies are being continuously improved, as are processing algorithms. Despite this, autonomous robots' and vehicles' perceptions are still imperfect in degraded and unexpected situations. Sensor fusion is the key to robust perception in most cases, to benefit from sweet spots of complementary modalities. Machine learning is currently being applied to process data of any type with state-of-the-art results; one step further is to leverage the mix of modalities with artificial intelligence. This Issue aims to encourage the publication of i) innovative methods applied to artificial intelligence-based data fusion to multi-sensor perception systems and ii) new interacting frameworks facilitating the integration of deep learning solutions and multi-sensor-based perception systems for autonomous robots. Particular attention will be paid to contributions providing experimental validation of full-scale mobile robotic systems.

Guest Editors

Dr. Sergio Rodriguez

SATIE Laboratory CNRS Joint Research Unit, UMR 8029, Paris-Saclay University, 91190 Gif-sur-Yvette, France

Dr. Julien Moreau

Heudiasyc UMR-CNRS 7253, Université de Technologie de Compiègne, Compiègne, France

Prof. Vincent Frémont

Ecole Centrale de Nantes, LS2N-CNRS, Nantes, France

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

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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.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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