

Special Issue

Applications of Artificial Intelligence in Industry 4.0/5.0: Innovations, Challenges, and Future Directions

Message from the Guest Editors

The application of artificial intelligence (AI) in industrial environments is revolutionizing production, automation, and process management, surpassing the limits of Industry 4.0 and paving the way for Industry 5.0. This Special Issue invites original research, case studies, and review articles that present AI applications in diverse industrial areas. Topics of interest include AI-driven predictive maintenance, quality control, autonomous optimization, vision-based inspection, mobile robotics and smart navigation in industrial environments, the development of smart sensors for industrial AI, automation and control based on neural networks and deep learning, and finally AI for energy management and industrial energy efficiency. Additionally, we encourage applications with an focusing on integrating AI into cyber-physical systems, digital twins, collaborative and autonomous robotics, and industrial internet of things (IIoT) frameworks, highlighting how these advances drive smart, data-driven manufacturing.

Guest Editors

Dr. Filipe Pereira

Prof. Dr. Carlos Felgueiras

Prof. Dr. Vítor Carvalho

Dr. Pedro M. B. Torres

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Applied Sciences
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsoci@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32,
20133 Milano, Italy

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