

Special Issue

Mixture of Human and Machine Intelligence in Digital Manufacturing

Message from the Guest Editors

Industry 4.0 and digital manufacturing describe new paradigms for seamless human-machine interface (HMI). A number of definitions of HMI emphasized the significance of understanding how user interface technologies that aim to develop useful, usable and artistic software and hardware are designed. Modern interaction technology has moved from simple use of computers as tools to the establishment of human relationships with autonomous entities, which gradually emphasizes human factors in various steps of interaction process (De Visser and Shaw, 2018). As such, organic combination between human and machine would leverage their intelligence in a dynamic way and motivate computational intelligence development, providing more opportunities for traditional manufacturing system design. While machines interact with manufacturing systems and make human-relevant decisions, new design patterns in perception, control, and arbitration are required to support the integration of human expertise. In addition, sensory data collection and analysis can further aid digital decision-making.

Guest Editors

Dr. Yang Lu

Dr. Ming Zhang

Dr. Ziwei Wang

Deadline for manuscript submissions

closed (30 June 2025)



Designs

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

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Editor-in-Chief

Prof. Dr. Joshua M. Pearce

Department of Electrical & Computer Engineering, Western University,
London, ON N6A 3K7, Canada

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