Industry of the Future: ethics

Organisers:

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Short presentation:

This session, supported by the IEEE IES Technical Committee on Technology Ethics and Society (TC-TES https://tes.ieee-ies.org/), is intended to serve as the basis for the construction of a special issue of the Elsevier Journal Computers in Industry, willing to address this topic. Extended versions (including new results, new figures…) of papers composing this special session will be invited to be submitted to the special issue of the journal.

Based on the development of Artificial Intelligence models and methods, Future industrial systems will be based upon the design and use of more autonomous, intelligent systems, being resources, products, digital systems interacting or cooperating with humans. This holds also true in the healthcare, logistics and transportation sectors. All these developments should be accompanied by strong attention to ethical and societal issues involved in the design, development, operation and maintenance of such systems and their automation beyond classical key performances indicators expressed in terms of effectiveness or efficiency.

This session is seeking position papers, ideas, interdisciplinary works, critical analysis and comparison, simulations, even with a low degree of maturity. All aspects relevant to ethics can be addressed: ethical behaviour of researchers (ethical design of systems, techno-ethics), study of the ethical behaviour of the artificial system designed (design of ethical systems, machine ethics), impact on society, ethical risks relevant to the over-integration of humans with artificial systems (e.g., operator 4.0), algorithmic bias in AI, and transparency in intelligent autonomous systems and their applications, performance measurement, etc.

Interdisciplinary studies on the applicability of different ethical and societal frameworks in future industrial systems, including legal and economic aspects are also of great interest. The impact on logistics as well as on legal and societal aspects can be considered as an interesting starting point for proposals.

Inspiration from sci-fi literature, philosophy and other fields relevant to humanities would bring interesting complementary points of view.

Keywords: ethics, human-machine cooperation, system engineering, artificial intelligence, safety, bias and transparency, technology, society

Important dates:

- Full paper submission: 15 July 2021
- Notification of acceptance: 15 September 2021
- Final, camera-ready paper submission: 15 October 2021
- Early registration and fee payment: 1 November 2021
- Workshop: 18-19 November 2021