

Intelligent Systems: An Assessment of the Past and the Prospects for the Future

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The last decade of the last millennium is characterized by what might be called the intelligent systems revolution, as a result of which, it is now possible to have man-made systems that exhibit ability to reason, learn from experience and make rational decisions without human intervention. Prof. Zadeh has coined the word MIQ (machine intelligence quotient) to describe a measure of intelligence of man-made systems. In this perspective, an intelligent system can be defined as a system that has a high MIQ.

In the presentation the state-of-art reached in intelligent systems is overviewed with examples and a perspective on the future is given. An assessment of the past is presented, discussing the profound technological changes that have taken place during the last 2 decades, especially the changes observed in manufacturing industries. The paradigm change from industrial electronics to industrial informatics is pointed out to. This is followed by a look at the evolution of the manufacturing paradigms, with particular emphasis on the Fourth Industrial Revolution. The talk closes with a consideration of the possible research directions in mechatronics and robotics as the driving forces behind intelligent systems.