

Lecture 1: Singularity Re-Visited

It was more than a decade ago, in 2005, that a non-fiction book, titled “Singularity is Near” was published and soon became very popular. Its author; the futurist Ray Kurzweil, defined technological singularity as “a time when machines will have and be able to make other machines with intelligence comparable to human beings.” His prediction at that time was that this would happen by 2045, i.e. about 25 years later.

AI is considered to be the basis of an intelligent machine. This presentation will discuss the recent hype on AI. Presently, mind-confusing terms like AI, G(General)AI (or AGI) and EI (Extended I) are all floating around, DARPA adds to the confusion by “XAI (Explainable AI).” Is there an Unexplainable AI? What indeed is AI? Presently some forms of deep learning? And tomorrow what?

The presentation will conclude, pondering whether “Singularity,” as was defined 13 years ago, will meet the same fate as the “Thinking Machines.”

Lecture 2: Science, Technology and Industry in 21st Century

This presentation discusses the profound technological changes that have taken place during the last 2 decades, the main characteristics being erosion and convergence. It is pointed out that the advances are at the edge of traditional disciplines and the connections between different disciplines are becoming the core of the new technologies, in a not multi, not inter but a transdisciplinary manner. It is argued that convergence fuels convergence and results in emergence. Four distinct phases of industrial revolution, culminating in Industry 4.0 are discussed. The emerging paradigms of big data and cyber physical systems, supported by new disruptive advances both on software and hardware sides, as well as the cross-fertilization of concepts and the amalgamation of information, communication and control technology driven approaches are pointed out to. The recent hype on AI is then discussed and a view on its expected impacts on industry is presented. The presentation concludes with the brief discussions of circular economy and possible transition from Industry 4.0 to Industry 5.0.