Monograph

Human-Machine-Nature Symbiosis
on
Cyber-Physical-Social Intelligence

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Abstract. *The next-generation artificial intelligence will extend machine intelligence and human intelligence to a cyber-physical-social intelligence rendered by cyberspace, physical space, and social space. With the transformational development of science and society, a multi-dimensional reality emerges and evolves with developing various dimensions. A fundamental scientific problem is what is the essential mechanism that structures and evolves the reality? Solving this problem needs to unveil the fundamental relations between humans, machines and the reality. This work studies the symbiosis between humans, machines and the nature with the rules and the emerging patterns of recognizing, integrating and optimizing various flows through cyberspace, physical space and social space. Research unveils a reciprocal human-machine-nature symbiosis and relevant rules on structuring and evolving the reality and suggests a multi-dimensional space for studying the reality. The influence of human-machine-nature symbiosis on various information systems are investigated. This work makes a fundamental contribution to the formation of the research area of cyber-physical-social Intelligence and its development.*

Table of Content

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