

Guest Editorial Preface

Special Issue on Intelligent Sensing for Big Data

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The phrase “big data” refers to the kinds of data that challenge existing analytical methods due to size, complexity, or rate of availability. The challenges in managing and analyzing “big data” can require fundamentally new techniques and technologies in order to handle the size, complexity, and velocity of the data. The cyber-physical system (CPS) has been coming into existence and will be applied in our daily lives and business process management. The emerging CPS must be robust and responsive for its implementation in coordinated, distributed, and connected ways. It is expected that future CPS will far exceed today’s systems on a variety of characteristics, for example, capability, adaptability, resiliency, safety, security, and usability.

This special issue aims to address some of these issues. The manuscripts submitted for the special issue were reviewed by experts from both academia and industry. After two rounds of reviewing, the highest quality manuscripts were accepted. This special issue includes the following four papers. Ye (2017) presents the trapezoidal intuitionistic fuzzy weighted averaging (TIFWA) operator, trapezoidal intuitionistic fuzzy ordered weighted averaging (TIFOWA) operator, trapezoidal intuitionistic fuzzy weighted geometric (TIFWG) operator, and trapezoidal intuitionistic fuzzy ordered weighted geometric (TIFOWG) operator to aggregate the trapezoidal intuitionistic fuzzy information and investigates their properties. Ren (2017) introduces the Dice similarity measure of single valued neutrosophic numbers (SVNNs) for ranking SVNNs and a single valued neutrosophic prioritized weighted geometric (SVNPWG) operator for aggregating single valued neutrosophic information. Ke (2017) presents a new extreme learning machine (ELM) network structure on the basis of tolerance rough set. The objective of this work is to realize the high-efficiency and multi-dimensional ELM network structure. Sheng and Wang (2017) study the cloud manufacturing service platform and mode in the coordination and optimization of large equipment complete service (LECS). A set of theory-based system of coordination and optimization is systematically established to support and implement LECS’ cloud manufacturing mode.

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