Computational Intelligence and Neuroscience

Hindawi

Special Issue on

Methods and Applications of Computational Intelligence and Cognitive Computing for Smart Service Systems

CALL FOR PAPERS

This special issue targets research communities with high experience on the application of computational intelligence and cognitive computing methods for design and development of Smart Service Systems in several sectors (e.g., energy, education, government, and healthcare).

In a wider sense, service systems are sociotechnical systems consisting of people, technologies, organizations, and information designed to deliver services that cocreate value. Recent developments on smart devices and internet of things provide these systems with capabilities of sensing, actuation, communication, and control. Despite that, Smart Service Systems go far beyond the pure application of smart technologies to service systems. Smart Service Systems are capable of learning, adaptation, and decision making in high dynamic and changing environments characterized by uncertainty. These systems continuously improve (e.g., productivity, quality, compliance, and sustainability) and coevolve with all sectors (e.g., government, healthcare, education, finance, retail and hospitality, communication, energy, utilities, and transportation) to benefit customers, citizens, and providers. Examples of Smart Service Systems include, but are not limited to, smart grids, smart cities, smart government, and cyber physical systems, among others.

Design and development of effective and usable Smart Service Systems are multidisciplinary activities that require robust and reliable analytics and cognitive features to enable governance, decision making, and value cocreation. Governance, sustainability (including energy efficiency), and resilience are open challenges for these systems at global (e.g., multinational organizations) and regional (e.g., state, city, and university) levels and can have a tremendous impact on the growth of their respective communities. The combination of computational intelligence methods with recent advances on cognitive computing that are such a method to mimic human reasoning and decision making is the key to efficiently address methodological and technological challenges behind Smart Service Systems. Methods and techniques of interest include, but are not limited to, machine learning, deep learning, data mining, big data analytics, neural networks, evolutionary computing, fuzzy logic, granular computing, natural language processing, context and activity recognition, human oriented decision making, and cognitive assistants.

The special issue seeks original research articles as well as reviews and case studies on the application of the above methods and techniques to Smart Service Systems.

Potential topics include, but are not limited to:

- Methods and techniques of computational intelligence and cognitive computing for Smart Service Systems governance, sustainability, and resilience
- Application of analytics, computational intelligence, and cognitive computing for value cocreation processes
- Cognitive architecture, systems, and applications for Smart Service Systems
- Soft computing, pattern recognition, and computational intelligence for modelling, control, and prediction of Smart Service Systems
- Information processing and decision making in Smart Service Systems
- Adaptation and personalization
- Activity recognition and situation awareness in Smart Service Systems

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/cin/maci/.

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