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Special Issue on Advancing Intelligent Automation in Sharing Economy

Sharing economy refers to peer-based activities of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services. Sharing economy known as collaborative consumption that people sharing of services rather than having individual ownership, which can drive green consumption and sustainable development in our human society significantly. Furthermore, sharing economy could be considered as an emerging economic-technological paradigm that is driven by developments in multiple information technologies, such as simplify sharing of both physical and nonphysical goods and services through intelligent systems. As a kind of important information technology, intelligent automation techniques have been widely applied in sharing economy (e.g., Airbnb, Uber, and Amazon Mechanical Turk), and can potentially result in great impact on citizens' everyday life and generate huge economic benefits. For example, intelligent automation could find applicability in multiple areas and disciplines in sharing economy, including (but not limited to) (1) Optimization in home automation, intelligent and controllable Internet of Things-enabled systems (i.e., networks of robots integrated with distributed environmental sensors), which can optimize the deployment of resources that would be shared and accessed for the benefit of involved communities; (2) Automatic matching in ridesharing, e.g., cloud-based big data analytics and automatic coordination/matching mechanisms which can be applied to a large pool of drivers and passengers, and enable them simultaneously diminish cost in similar destinations and overlapping journeys; and (3) Improving crowdsourcing systems, such as intelligent filtering of participants, autonomous grouping of temporary workers, automatic controlling schemes of workflow, and intelligent algorithms aggregate the contributions from individuals automatically, which can improve efficiency, effectiveness, and intelligence in crowdsourcing systems. Accountable autonomous operation, human centered automation, cloud robots, security and privacy, and other methodologies, innovations, and technologies which can facilitate intelligent automation in sharing economy are also welcome.   The main objective of this special issue aims to involve multidisciplinary research contributions on the state of the art of intelligent automation and its potential applications in sharing economy. Topics explored in this special issue include, but are not limited to:

- Cloud-based robots and intelligent systems for sharing economy
- Human centered automation for optimization of resource deployment in sharing economy
- Human computer interface for home automation & intelligent devices in sharing economy
- Innovative computer software and hardware architecture for big data processing in sharing economy
- Real-time big data analytics for automatic matching in sharing economy
- Distributed sensing and heterogeneous big data integration in sharing economy
- Semantic techniques in intelligent automation for sharing economy
- Process modeling, analysis, mining and optimization in intelligent automation for sharing economy
- Theoretical foundations of filtering/controlling/managing crowdsourcing systems
- Evaluations and solutions for security, privacy, and reliability issues of big data in sharing economy
- Case study on real-world intelligent automation applications for sharing economy
- Social and economic impacts of intelligent automation applications in sharing economy

Important Dates

- October 15, 2017: paper submission deadline.
- January 15, 2018: completion of the first round review.
- April 15, 2018: completion of the second round review.
- June 15, 2018: final manuscripts due.
- October 1, 2018: tentative publication date.

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Paper Submission

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