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Preface to JAISE 13(6)

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1. This Issue

This regular issue of JAISE is composed of four manuscripts. The review process for the manuscripts in this issue was supervised by our editors Jun Luo, Vincent Tam, and Jie Yang, whom we thank for their service.

Ambient intelligence, big data analytics and sensing technologies have empowered many important applications in assisted living, Industry 4.0, smart healthcare, smart cities, smart homes and intelligent robotics that have been continuously reshaping our ways of living. Most of such practical applications may involve a diversity of sensed data with different complexities to analyse and predict specific patterns of behaviour or events occurring in smart environments. However, it is extremely challenging to recognise a person's emotion through real-time sensing of data in order to subsequently provide appropriate responses to the individual. The manuscript "**Emotion-sensitive voice-casting care robot in rehabilitation using real-time sensing and analysis of biometric information**" by Sripian *et al*. carefully examines the characteristics of real-time sensing of emotion through heart rates, and applies these analytical results to select appropriate phrases uttered by a voice-casting robot in a rehabilitation setting. To demonstrate the effectiveness of the proposed framework, a real-time emotion-sensitive robot is developed to achieve this objective. The reported evaluation results indicate that the voice-casting robot is capable of performing supportive actions that are significantly different from non-voice casting robots.

Other challenges in application development in ambient intelligence that are based on identifying human activity may be the scarcity of labelled data. The manuscript titled "**Collaborative activity recognition with heterogeneous activity sets and privacy preferences**" by Civitarese *et al*. proposes a novel approach based on Growing When Required (GWR) neural networks in which a GWR network continuously adapts itself with respect to the input training data. Therefore, the proposed approach is best suited when the users share heterogeneous sets of activities. In addition, a strategy is adopted to prohibit the release of model parameters that may indirectly reveal information about "private" activities marked by the user for protecting data privacy. The obtained results on two publicly available datasets demonstrate the effectiveness and flexibility of the proposed approach.

In the context of recognising human activity in various smart environments, particular applications can focus on effective assistive living methods and technologies for the elderly. The manuscript "**Caregiver development of activity-supporting services for smart homes**" by Belloum *et al*. proposes a tool-based approach to enable caregivers in defining services for the daily living of the elderly, while also leveraging their expertise and knowledge in offering specific care for the elderly users. In the proposed framework, a wizard is implemented to define existing manually-programmed and activity-supporting services. More importantly, the resulting services have been deployed and utilized by an existing assisted living platform to serve the homes of many community-dwelling individuals.

A smart city needs to support an intelligent transportation and parking system to ensure a high quality of living for all the citizens. The manuscript "**Smart parking management system with dynamic pricing**" by Mondal

et al. considers a smart parking management system utilising a multiple criteria-based parking space reservation algorithm to allow the drivers or owners of vehicles to find and reserve the most appropriate parking space anytime and anywhere in a smart city. The system also employs the concept of dynamic pricing strategy to determine a fair value for the parking charge. Simulation results reported in the paper indicate that the proposed method can reduce the average driving efforts required by the users to find a suitable parking spot in a metropolitan area while reducing both the traffic congestion and air pollution caused by the prolonged driving.

2. Upcoming issues

The following is a list of upcoming issues of JAISE:

- January 2022: Thematic Issue on Sensing and Computing for Smart Healthcare.
- March 2022: Regular Issue.
- May 2022: Thematic Issue on Secure and Advanced Technology for Intelligent Environments.
- July 2022: Regular Issue.
- September 2022: Thematic Issue on Current Trends and the Future of Internet of Things in Industry and Enterprise.
- November 2022: Regular Issue.

More information on the call for papers to the future issues is available on the webpage of JAISE at: http://www.iospress.nl/journal/journalof-ambient-intelligence-and-smart-environments/.