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Preface to JAISE 14(2)

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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 Vincent Tam and Somaya Ben Allouch, whom we thank for their service.

Smart buildings are essential elements of a smart city. When large buildings are in critical states such as when fire alarms are sounded, providing information about the whereabouts of the building occupants to the search and rescue teams as well as a smart system of guiding the occupants to safe routes for exiting the building are two critical components in the operation of smart building. Intelligent fire evacuation requires dynamic planning of paths in the building. The manuscript "**Bidirectional ACO intelligent fire evacuation route optimization**" by Wang proposes a method to automatically adjust the evacuation route in the building according to the real-time information of the fire. The paper employs an improved bidirectional ant colony algorithm to optimize fire evacuation routes and demonstrates its efficiency through simulations.

Management of environmental and urban noise is another issue in smart cities. Even green spaces and city parks located in urban areas are not immune from traffic noise pollution. This affects the experience of park visitors as a constant level of noise which may also include the sounds associated with occasional passage of a tram or emergency vehicle sirens tends to diminish the serenity of the ambience. Noise pollution hence makes the use of urban parks less attractive to the residents. The manuscript "**Enhancing the park experience by giving visitors control over the park's soundscape**" by De Pessemier *et al*. investigates if artificial sounds can improve the experience of visitors of an urban park with a lot of traffic noise. The paper proposes a mobile application by which the park visitors can select among natural sounds such as bird songs or a waterfall. Adding such sounds to the existing environment sounds results in an augmented soundscape which was favoured by most visitors of an urban park.

Automation of power consumption in industrial and residential settings has been under extensive development in the past decades. Protocols and devices that employ environmental sensors and adapt to user preferences have been introduced for enabling efficient use of energy. However, a balance is often required to be made between the degree of automation and allowing interventions by users. In an industrial application, the design of the system also needs to restrict access to the intervention mechanism to authorized users in order to prevent misuse of equipment and ensure operator safety. The manuscript "**Development of dual access energy monitoring for smart control system**" by Gujar *et al*. proposes a smart access control system with energy monitoring in which only authorized personnel are allowed to operate the equipment within the range of its functioning parameters.

Wireless Body Area Network (WBAN) is an emerging technology with a potential to facilitate many applications in healthcare. However, its adoption as a networking technology is challenged by the limited battery power of the

sensors, the random motion of human beings making sensor positioning difficult, and lack of efficient routing methods for the transmission of critical health parameter values. Even the state-of-the-art protocols do not simultaneously address the adverse effects of heating of sensors placed on human body and the energy constraints and interference issues. The manuscript "**Lifetime enhancement of body area network by optimizing the number of relay nodes using MILP in the presence of intra-WBAN interference**" by Adhikary *et al*. proposes a network topology to handle these issues by defining an optimal number of relay nodes and an efficient routing algorithm which uses the remaining energy of the sensors intelligently and homogeneously. This leads to an increase in the network's lifetime without compromising reliability.

2. Upcoming issues

The following is a list of upcoming issues of JAISE:

- May 2022: Regular Issue.
- 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.
- January 2023: Thematic Issue on Intelligent IoT for Autonomous Control and Ambient Intelligence.
- March 2023: 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/.