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Preface to JAISE 14(3)

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1. This issue

This regular issue of JAISE is composed of four articles. The review process for the manuscripts in this issue was supervised by our editors Hamid Aghajan, Chen Chen, François Portet, and Guillaume Lopez, whom we thank for their service.

The paper entitled "**Ultra-wideband data as input of a combined EfficientNet and LSTM architecture for human activity recognition**" by Alexandre Beaulieu et al. addresses the important confluence of activity recognition for ambient assisted living. The technical core contribution of this article includes a system based on a deep learning model combining LSTM and a tuned version of the EfficientNet model using transfer learning, data fusion, minimalist pre-processing as well as training for both activity and movement recognition using data from three ultra-wideband (UWB) radars. The system was validated on a real smart environment and showed improvements to previous similar approaches.

The paper entitled "**Fuzzy multi-agent assistance system for elderly care based on user engagement**" by Alfonso Rojas-Domínguez et al. also considers an ambient assisted living system however more focused on software and algorithmic approach and based on a multi-agent system. The focus of the system is in providing core components of the multi-agent system strong interaction and engagement capabilities with the main intended beneficiaries of the ambient assisted living system. The system is demonstrated with scenarios focused on providing security, comfort and health-related services. User engagement levels are estimated through a fuzzy inference system. The system was tested using two different datasets of real interactions between users and devices in their home environments which demonstrates how the system improves performance and alignment of the system behaviour with user satisfaction.

The paper entitled "**Refillable PUF authentication protocol for constrained devices**" by Arthur Desuert et al. addresses the limitations associated with many of the devices currently available, which are often constrained in various aspects, including on security. The article focuses on the use of Physical Unclonable Function (PUF) technology which can support new lightweight security mechanisms and several lightweight security protocols. The main contribution is on the design of a new authentication protocol for constrained devices which takes into account those challenges. This protocol is implemented on a hardware platform used for connected devices development, which is then used to evaluate the security level and performances of the protocol in a realistic scenario. This evaluation shows that the protocol is secure and can meet industrial time constraints.

Lastly, the paper "**VASE: Smart Glasses for the Visually Impaired**" by Agrawal et al., provides an explanation on how to create smart glasses, which offer more affordable options than the most expensive ones which made

headlines in recent times. Although this development is more at protoypical stage it offers other colleagues around the world a good starting point to multiply innovation in this area.

2. Upcoming issues

The following is a list of upcoming issues of JAISE:

- 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: iospress.com/catalog/journals/journal-of-ambient-intelligence-and-smart-environments.