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Preface to JAISE 16(4)

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1. This issue

This regular issue of JAISE is composed of eight articles. The review process for the manuscripts in this issue was supervised by our editors Ehsan Adeli, Brenda Bannan, Anthony Fleury, Andrés Muñoz, Caifeng Shan, and Lanyu Xu, whom we thank for their service. The first article in this issue is selected as editor's choice and has been made freely available.

Edge computing in IoT for smart healthcare by Yaraziz et al., performs an extensive systematic literature review of the so-called Internet of Medical Things, highlighting which are the issues of higher concern in this area of applications, the aspects where these technologies bring higher benefits and also the remaining challenges.

Evaluation factors of adopting smart home IoT: The hybrid fuzzy MCDM approach for robot vacuum by Yang and Li, considers the combination of two fuzzy multi-criteria decision-making methodologies to rank the factors consumers consider as higher priority when considering the adoption of robot vacuum cleaners. The study also has implications for the selection of other smart home IoT.

Hybrid fuzzy response threshold-based distributed task allocation in heterogeneous multi-robot environment by Joseph et al., reports on a hybrid fuzzy response threshold-based method applied to the problem of task allocation in a heterogeneous mobile robot environment. The objective here is to maximize the tasks completed with the resources available while balancing task suitability and a FireBird V mobile robot platform.

Forecasting energy demand and efficiency in a smart home environment through advanced ensemble model: Stacking and voting by Drir and Kebour, presents a study based on machine the use of machine learning to perform a global analysis of energy consumption and efficiency in smart homes. The authors considered two advanced ensemble models to improve the performance of energy consumption in smart homes, concluding that the combination of decision tree (DT), random forest (RF), and eXtreme Gradient Boosting (XGB) using stacking technique provided the best results.

Performance of matrix completion approaches for aquaponics data by Nandesh et al., explores the applicability of different matrix completion approaches for missing data reconstruction, tested over datasets from wireless sensor network nodes for a remotely monitoring aquaponics system.

Wavelet-domain human activity recognition utilizing convolutional neural networks by Tavakkoli et al., presents a method based on convolutional neural networks (CNNs) for feature extraction and activity recognition, and a new loss function that produces denser representations for samples, improving the model generalization on unseen samples. The validation was performed on public datasets concerning human activity recognition based on body worn sensors.

Improving resource recycling based on deep learning by Yu and Guo, an improved Single Shot Multibox Detector (SSD) deep learning approach has been developed for recyclable garbage detection which exhibits more detection accuracy and efficient speed than other known approaches for the same problem.

Methods for volume inference of non-medical objects from images: A short review by Nabitchita et al., studied progress in 3D object recognition and volume estimation, particularly in food analysis. It reports significant

advances, particularly in deep learning approaches, which are of high practical value to industries like healthcare, robotics, augmented reality, and smart environments.

2. Upcoming issues

The following is a list of upcoming issues of JAISE:

- February 2025: Regular Issue.
- May 2025: Regular Issue.
- August 2025: Thematic Issue on "Urban Computing and Mobility Pattern Analysis".
- November 2025: Regular Issue.

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