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1 This issue

This regular issue of JAISE is composed of six articles. The review process for the manuscripts in this issue was supervised by our editors: Fabio Paterno, George Baryannis, Fabio Costa, Andrés Muñoz, and Filippo Palumbo, whom we thank for their service. The first article in this issue is selected to be available free to read as an editor's choice.

Smart fitness applications have increasingly become an integral part of daily exercise routines. A key challenge in the design of these systems lies in presenting information in a way which aligns with the user's cognitive and perceptual needs during self-directed exercise. The paper **Differences in User Attention to Interface Information of Smart Fitness Applications under Certain Exercise Contexts**, by Ziping Meng et al., explores how exercise experience and intensity may influence the user's attention to the interface information in smart fitness applications. Based on a wall sit experiment with a group of participants and using eye-tracking technology to measure fixation duration as an indicator of visual attention, the paper demonstrates that experienced users exhibit significantly greater attention to physical data while inexperienced users focus more on atmosphere-related information. The findings of the study can provide empirical support for interface design strategies in smart fitness applications.

Data-driven allocation of private vehicle parking spaces in a smart city is one of the enablers of efficient urban mobility. To mitigate parking scarcity in central areas, municipalities often implement metered parking zones to encourage vehicle turnover. These digitized systems generate historical data enabling occupancy mapping and predictive analysis. The paper **ParkMapSense: A Model for Parking Occupancy Mapping and Prediction in Smart Cities**, by Carlos Borges et al., proposes a computational model designed to generate occupancy maps and forecast parking availability. The performance of the proposed system was evaluated using operational data from a medium-sized Brazilian city over two years, in which occupancy was measured across different weather conditions. The results can provide insight for urban mobility planning and enforcement optimization.

Forest fires are among the most destructive natural hazards, posing significant threats to ecosystems, infrastructure, and human life. In the Mediterranean regions, the frequency and intensity of wildfires have increased due to climate change and human activities. The paper **An Integrated IoT-ML Framework for Real-time Wildfire Monitoring and Prevention**, by Ali Kourtiche et al., proposes a cloud-centric hybrid Internet of Things (IoT) and machine learning (ML) framework for intelligent forest fire monitoring and prevention. The proposed system integrates distributed IoT sensor nodes equipped with temperature and humidity sensors that continuously collect environmental data. It also employs meteorological variables, including wind speed and rainfall, to enhance its predictive capabilities. The paper validates its functionality using two Algerian datasets, and its findings demonstrate the potential of integrating IoT sensing, meteorological information, and machine learning to support sustainable environmental monitoring within ambient intelligence systems.

Technological solutions have become increasingly important across various agricultural domains to increase productivity and minimize environmental impacts. The paper **A Quadruped Robot for Real-Time Pest Detection in Agriculture Using GAN-Enhanced Deep Learning**, by Selim Surucu et al., proposes a quadruped robot system for the detection and classification of pests in agricultural fields using generative artificial intelligence (AI) and autonomous robotic systems. It employs deep learning models on datasets of pest images and uses various simulation settings to enhance the robot's functionality in various conditions. Field tests using a prototype model confirmed the functional feasibility of the integrated system for autonomous and precision pest management in sustainable agriculture.

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With the advent of IoT, the issue of security has remained a technological challenge calling for a universal set of rules. As IoT environments integrate data from various smart devices which connect and exchange information, ensuring the authenticity of devices in IoT networks is crucial. The paper **Securing IoT Environment—A Systematic Review of Authentication Mechanisms and Emerging Paradigms**, by Amit Mishra et al., provides a systematic literature review aiming to identify research gaps, recurring patterns, and potential future directions in IoT authentication with particular attention to the architecture employed. The review analyzes different authentication techniques and presents their advantages and disadvantages using several criteria, and examines emerging authentication paradigms such as blockchain-enabled authentication frameworks, machine learning-based augmented authentication models, and lightweight authentication schemes tailored for resource-constrained IoT devices.

IoT-enabled smart healthcare systems are designed to improve quality of life but face security threats leading to system failure and abuse. A key security technique is four-step threat modelling during system design, based on the four-layer IoT reference model. The paper **Security Threat Modelling for IoT-enabled Smart Healthcare**, by Sabina Barakovic et al., provides a review of studies published in the period 2014–2025 on the subject of IoT security in healthcare applications, and analyzes various aspects of practical threat modelling and analysis of smart IoT healthcare systems.

2 Upcoming issues

The following is a list of upcoming issues of JAISE:

- February 2027: Regular Issue.
- May 2027: Regular Issue.
- August 2027: Regular Issue.
- November 2027: Thematic Issue on "Robust and Responsible Intelligent Systems for Human-Centred Smart Environments."

More information on the call for papers to the future issues is available on the webpage of JAISE at: https://journals.sagepub.com/home/AIS