

Introduction to the Proceedings of WoRIE'24

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This volume contains the accepted submissions for the 13th International Workshop on the Reliability of Intelligent Environments (WoRIE 2024) which will be held within the 20th International Conference on Intelligent Environments (IE'24) in Ljubljana, Slovenia, from 17th to 20th June 2024. The workshop serves as an academic platform where researchers and practitioners gather to discuss and develop strategies and methods for enhancing the reliability, safety, and security of Intelligent Environments. These efforts are directed towards increasing user trust and confidence in these systems.

We are privileged to have Prof. Nabil Abdennadher as our esteemed keynote speaker for this edition. His presentation discusses the evolution and future of IoT computing systems, highlighting the integration of IoT, edge, and cloud resources to create a seamless compute continuum or edge-to-cloud system. It focuses on the deployment of self-adaptive machine learning applications across distributed systems, utilising cloud infrastructure for learning and edge devices for real-time data processing. The talk, emerging from European projects SWARM and LASAGNE, also outlines the development of edge-to-edge platforms and federated learning applications for sectors like smart grids and renewable energies.

This collection showcases a diverse array of theoretical and practical innovations: a method that uses 30-minute cumulative power consumption data to recognise seven household activities, enhancing accuracy with transfer learning (average F1 score 0.86); a technique combining Wi-Fi and acoustic signals to improve identification by 10%, addressing issues with device location and silhouette; an analysis of cyber threats in autonomous vehicles, featuring a comparison of attacks like DoS and Spoofing and proposing cryptographic countermeasures; a user study on the effectiveness of modelling and mining techniques in smart environments; and an IoT-based system using statistical control charts to better acclimatize shrimp in farming, aiming to enhance monitoring and reduce mortality rates.

Finally, we extend our sincere gratitude to all the authors of the submitted papers for their high-quality contributions; the WoRIE'24 Program Committee members for their outstanding work and invaluable support during the review process; and the IE'24 Workshops Chairs for their assistance and support. The successful organisation of this workshop edition would not have been possible without the collective efforts of everyone involved.