



SMART 2025

The Fourteenth International Conference on Smart Systems, Devices and
Technologies

April 6 - 10, 2025

Valencia, Spain

SMART 2025 Editors

Lasse Berntzen, University of South-Eastern Norway, Norway

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2025) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed with permission by Curran Associates, Inc. (2025)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Smart City Road Maintenance: A LiDAR and AI-Driven Approach for Detecting and Mapping Road Defects <i>Giovanni Nardini, Roberto Nucera, Alessandro Ulleri, Stefano Cordiner, Eugenio Martinelli, Arianna Mencattini, and Iulian Gabriel Coltea</i>	1
IoT System for Indoor Air Quality Monitoring Using ThingSpeak: Promoting Healthy Work Environments <i>Ilber Adonayt Ruge Ruge, Ingrid Carolina Ortiz Alvarez, and Fabian Rolando Jimenez Lopez</i>	5
Deep Learning-based Failure Detection for Safety Diagnostics of Hydrogen Storage Vessels <i>Dongju Kim, Da-Hyun Kim, Hyo-Jin Kim, and Young-Joo Suh</i>	10
Disaster Detection Framework for Smart Cities: An AI YOLOv8 and IoT Approach <i>Hossam Kamel</i>	16
On-the-Edge Inference Enabled Vision System for Smart Cities <i>Carmelo Scribano, Ignacio Sanudo Olmedo, Micaela Verucchi, Danda Pani Paudel, Marko Bertogna, and Luc Van Gool</i>	24
Enhancing Smart City Sustainability: Anaerobic Treatment of Semiconductor Industry Wastewater for Improved Efficiency and Environmental Impact <i>Bruno Escobar, Ana Santos, Flavio Silva, and Helena Nadais</i>	29
Using Artificial Intelligence to Support Emergency Management Training - Creating Efficient and Realistic Scenarios with ChatGPT <i>Lasse Berntzen, Jarle Lowe Sorensen, Marius Rohde Johannessen, Lauritz Rauer Nilsen, Lene Sandberg, Eric Carlstrom, and Amir Khorram-Manesh</i>	34