EDITORIAL

The IADIS International Journal on Computer Science and Information Systems (IJCSIS) is a peer-reviewed scientific journal published exclusively in an electronic format. Its mission is to publish original contributions pertaining to the topics of Information Systems and their uses, to disseminate knowledge amongst its readers and to be a reference publication. The IADIS IJCSIS publishes original research papers and review papers, as well as auxiliary material such as short ongoing research papers, case studies, conference reports, management reports, book reviews and commentaries.

Volume 21, Issue 2 (ISSN: 1646-3692) combines ten selected original papers that bring together researchers covering the wide spectrum of the area of Computer Science and Information Systems in different contexts. The authors' contributions embrace significant research topics and intend to provide a current depiction of the research in the field while opening the way to future research.

The first contribution to this issue, by Julia Bosbach, Maximilian Helms and Christoph Lattemann entitled "HUMAN-CENTRED AI IN SMEs: A MATURITY MODEL FOR CHANGE AND TRANSFORMATION" explores the integration of the Ad Hoc Weaving Framework (AHWF) with AI amanuenses to create a meta-artifact that supports innovation management, entrepreneurship and technology governance. It examines how AI capabilities, including memory, pattern detection and reflection, can help practitioners apply AHWF consistently and maintain coherence between intentions, operations and outcomes. The study proposes an evaluation roadmap and discusses the potential benefits and risks of combining design-science tools with conversational AI.

The second paper; by Mario Bonatti, Mike Martin and Gianni Jacucci entitled "FROM THEORIES TO TOOLS: THE *AD HOC WEAVING FRAMEWORK* WITH AN AI AMANUENSIS FOR INNOVATION PRACTICE" develops and validates a human-centred maturity model for managing digital transformation and AI-driven change in skilled-trades SMEs. Based on qualitative focus groups with 39 experts, it identifies three key organisational capabilities and proposes a six-step implementation framework. The findings highlight the role of AI, leadership and change competence in fostering organisational maturity, innovation, and effective change management.

The third paper entitled "HARDWARE AS THE ARBITRATOR: AUTONOMOUS ESCROW LOGIC FOR LEDGERS WITHOUT SMART CONTRACTS" written by Luka Skeledžija proposes a TEE-based (Trusted Execution Environments) approach to enabling trustless, autonomous cross-chain transactions on ledgers without smart-contract support. It demonstrates the approach through an intent-based token swap protocol connecting an EVM chain and the XRP Ledger, preserving security and efficiency while minimizing performance

overhead. The study also examines the limitations of relying on a single hardware root of trust, particularly the vulnerability to microarchitectural attacks.

The fourth paper, by Ha Nguyen-Van, Chuyen Van-Nguyen, Sam Duong-Linh, Nam Nguyen-Khanh and Quoc Dang-Nam entitled "FROM DIGITAL TRANSFORMATION CAPABILITY TO PERFORMANCE AND RESILIENCE: THE MEDIATING ROLE OF ORGANIZATIONAL AGILITY IN VIETNAMESE SMEs" investigates the impact of digital transformation capability on firm performance and organizational resilience in Vietnamese SMEs, highlighting the mediating role of organizational agility. Based on survey data from 445 respondents and PLS-SEM analysis, the findings confirm that digital transformation capability positively influences both outcomes, directly and through enhanced agility.

The fifth paper, authored by Evelyn Bernhardt, Anett Mehler-Bicher and Benjamin Weyers, with the title "USE OF IMMERSIVE TECHNOLOGIES FOR SUSTAINABLE BUSINESS PROCESSES: CONNECTING RESEARCH AND PRACTICE" observes how immersive technologies (VR, AR, MR and XR) support sustainable business processes, identifying resource substitution, process optimization, and capability enhancement as key sustainability mechanisms. Combining a structured literature review of 15 studies with expert interviews, it highlights the need for standardized sustainability indicators and process-oriented frameworks.

The sixth paper, entitled "BETWEEN DESIGN AND SITUATED PRACTICE: AN ETHNOMETHODOLOGICAL STUDY OF OLDER ADULTS' USE OF BANKING SELF-SERVICE MACHINES" by Karin Spevak, René Baranyi, Dominik Hoelbing, Karl Pinter and Thomas Grechenig examines how older users' practices can conflict with the assumptions embedded in self-service banking terminals, drawing on a seven-year ethnographic study and interviews in Austria. The findings highlight the need for more transparent, supportive and context-sensitive system designs that accommodate diverse user practices rather than attributing difficulties to age-related deficits.

The seventh paper, entitled "DESIGNING COLLABORATIVE ROBOTICS FOR AUTOMOTIVE DEFECT DETECTION AND REPAIR: A HUMAN-CENTERED APPROACH" by Günter Alce, Björn Fischer, Fatih Çiftçi, Dilek Tükel, Daniele Fontanelli and Susanne Frennert explores the impact of collaborative robots on workers in automotive manufacturing, using observations, stakeholder interviews and workload assessments in Turkey. The findings inform a human-centred cobot (collaborative robot) design framework that addresses workload, tacit expertise, worker control and predictability while reducing physical and cognitive strain.

The eighth paper, with the title "LEARNED PATTERNS AND OFFLINE OPERATION IN SPANISH: A HUMAN-CENTERED, MULTI-DISTRIBUTION NATURAL LANGUAGE INTERFACE FOR GNU/LINUX" authored by Jose Ramon Aragon Toledo and Ricardo Ruiz Rodríguez presents BOTAS, a human-centred conversational interface that translates spoken Spanish into executable GNU/Linux commands, improving accessibility for non-expert users through reusable command patterns and offline functionality. Evaluations demonstrate high precision and a 66.6% reduction in task completion time compared with manually identifying commands, highlighting its potential to make command-line systems more inclusive and accessible.

The nineth paper, authored by Anna-Louise Brun, Ali Rouwane, Guillaume Dévès, Hervé Seznec, Pascal Desbarats and Claire Michelet, with the title "LARGE-SCALE GENERATION OF ANATOMICALLY REALISTIC *CAENORHABDITIS ELEGANS* PHANTOMS FOR DEEP LEARNING-BASED IMAGE RECONSTRUCTION" presents a pipeline for generating large-scale synthetic datasets of *C. elegans* to improve missing-wedge correction in quantitative 3D proton micro-tomography. Using anatomically realistic 3D phantoms and simulated tomographic projections, the pipeline generates 2.4 million samples to train deep learning models for more accurate biological image reconstruction.

The last paper, "MODELING BRAIN CONNECTIVITY TO DISTINGUISH COGNITIVE STATES IN ALZHEIMER'S DISEASE", by Dobromir Boyadzhiev, Olga Georgieva and George Petkov proposes an EEG-based methodology for distinguishing healthy individuals, people with mild cognitive impairment and Alzheimer's patients using brain functional connectivity features and clustering algorithms. The findings aim to support early diagnosis and ongoing monitoring by providing complementary decision-support tools for identifying different cognitive states.

These papers demonstrate how Computer Science and Information Systems research can address both technological challenges, organisational and societal needs. These contributions explore how artificial intelligence and digital transformation can enhance organisational capabilities, performance, and resilience; how trusted hardware can support secure cross-chain transactions; and how immersive technologies can contribute to more sustainable business processes. The literature reviews provide a strong theoretical foundation for these fields, while the empirical investigations into different technologies offer valuable opportunities for generating innovative insights.

The Editors

Pedro Isaías
Universidade Aberta (Portuguese Open University), Portugal

Marcin Paprzycki
SWPS, Poland