

## Special Issue on Intelligent Systems and Informatics

### Preface

Over the past two decades, the SISY conference has established itself as a distinguished platform for the exchange of ideas among researchers, engineers, and educators working in the fields of intelligent systems, fuzzy logic, and computational intelligence. The papers presented in this special issue of *Acta Polytechnica Hungarica* stem from the 23<sup>rd</sup> International Symposium on Intelligent Systems and Informatics (SISY 2025), organized in September 2025 under the patronage of Óbuda University and the Subotica Tech – College of Applied Sciences (VTŠ).

The papers included in this issue illustrate the diversity and vitality of contemporary research on intelligent and fuzzy systems. Several contributions focus on advances in machine learning, neural computation, and deep learning, addressing complex challenges in sensor data fusion, signal and image processing, robotics, and biomedical analysis. Others explore theoretical aspects of fuzzy modeling, aggregation operators, and uncertainty handling, reinforcing the essential role of mathematical rigor in intelligent systems design. The issue also features studies that connect intelligent technologies with practical domains such as education, sustainable energy, and cyber-physical systems—demonstrating how intelligent and adaptive methods continue to transform both research and application.

The SISY conference has always been characterized by its interdisciplinary scope and by the strong academic collaboration between Hungarian and Serbian institutions. The co-organization of SISY 2025 by Óbuda University and Subotica Tech further strengthened this tradition of cooperation, fostering new partnerships and the exchange of expertise across borders. As the conference continually attracts researchers from numerous countries, it provides a truly international platform for presenting innovative findings and discussing emerging scientific challenges. The results presented at SISY contribute to the advancement of global research trends, enhancing visibility, collaboration opportunities, and the overall impact of participating scholars within the international scientific community.

We express our sincere gratitude to all authors for their valuable contributions, to the reviewers for their careful evaluations, and to the editorial board of *Acta Polytechnica Hungarica* for supporting the publication of this special issue. It is our hope that the papers collected here will inspire further advances in intelligent systems research.

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Guest Editors