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Bruno-Kreisky-Platz 1, 1220 Vienna, Austria

Special Session Call for Papers
SMC 2025 Special Session on

Next-Generation Computational Intelligence for Evolving Systems and Applications

(Special Session Code: 95b58)

Special Session Organizer and Co-organizers:

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Important Dates
April 4, 2025: Deadline for submission of full papers to special sessions.
May 23, 2025: Acceptance/Rejection notification
June 20, 2025: Final camera-ready papers due in electronic form

Submission

Manuscripts for a Special Session should **NOT** be submitted in duplication to any other regular or special sessions and should be submitted to SMC 2025 main conference online submission system on SMC 2025 conference website.

All special session paper submission will be reviewed in the same way as main conference Regular Papers by a general pool of reviewers. Only papers of SMC Conference quality will be accepted for presentation. The Area Chairs and Co-Chairs of the SMC Technical Program will coordinate the review process.

Organized by
Hiroshima Section SMC Chapter

Introduction

The proposed special session, titled "Next-Generation Computational Intelligence for Evolving Systems and Applications," aims to explore cutting-edge advancements in computational intelligence (CI) and their transformative applications in dynamic and real-world environments. As technology continues to evolve rapidly, the integration of adaptive and intelligent systems becomes imperative to address challenges in domains such as healthcare, smart cities, autonomous systems, and energy management.

This session will focus on state-of-the-art methodologies and frameworks, such as advanced machine learning techniques, reinforcement learning, neuro-symbolic AI, and hybrid intelligence systems. A key objective is to highlight approaches that facilitate adaptability and knowledge evolution in uncertain or continuously changing scenarios, ensuring robust performance in practical applications.

The session welcomes contributions that showcase novel algorithms, innovative system designs, and successful implementations bridging the gap between theoretical developments and their operational deployment. The importance of addressing ethical considerations, transparency, and sustainability in these technologies will also be emphasized.

This session is organized as part of the activities of the IEEE SMC Hiroshima Chapter, aiming to promote academic and practical advancements in computational intelligence within a global and interdisciplinary framework. By gathering leading researchers and practitioners, this session seeks to foster interdisciplinary collaboration and exchange of ideas, driving the development of next-generation intelligent systems. Attendees will gain insights into emerging trends, challenges, and solutions, making this session a valuable platform for advancing the frontiers of computational intelligence and its applications.

This topic aligns seamlessly with the IEEE SMC mission of advancing systems, man, and cybernetics in an interconnected and adaptive world.

Indicative Topics/Areas

*Computational Intelligence
*Adaptive Systems
*Knowledge Evolution
*Real-World Applications
*Advanced Learning Techniques