Innovative AI Applications: From Real-Time Analytics to Proactive Strategies

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Call for submission. This editorial introduces the first issue of 2025 for *Embedded Selforganising Systems (ESS)* journal. The focus of this issue is AI-driven Solutions for Sustainable Environment Monitoring (Robotics and Embedded Systems).

Our journal uses electronic publication, which provides a flexible way to submit and review contributions of authors from all countries. The advantages of such an e-journal are multifarious. In comparison to traditional paper journals, we replace the classic review and creation process with a new sliding issue model. Each issue starts with an initial editorial and an official call for papers. The submitted articles will be reviewed and, if accepted, published as soon as the final version is received by the committee. Based on this process, each sliding issue can be filled successively until the maximum number of articles is reached. During this period, all accepted papers can, already be read by other researchers while other papers are still in the reviewing process. Accordingly, the time to publish shrinks to a minimum. In addition, multiple issues with different focus can co-exist at the same time, which provides completely new possibilities to react on latest research topics. The journal also allows the integration of discussions and other reactions on published articles in the same journal issue.

We are welcoming fresh ideas, on-going research technical reports and novel scientific works. We also intend to create a promising platform for creative and constructive discussions.

Towards Sustainable and Advanced Environmental Solutions

Achieving transformative progress across multiple domains necessitates the integration of advanced AI solutions that drive innovation, efficiency, and responsiveness. AI-driven methodologies offer significant improvements in data analysis, pattern recognition, and decision-making through real-time processing and predictive modeling. These capabilities empower industries to identify emerging trends, optimize operations, and implement proactive strategies.

Looking ahead, AI is set to profoundly influence a broad spectrum of sectors. Already instrumental in advancing technologies such as Big Data analytics, robotics, and the Internet of Things (IoT), AI continues to redefine scientific inquiry and industrial practices. Its expanding role as a key technological innovator is reshaping approaches to complex challenges and catalyzing a paradigm shift in the global technological landscape.

In sectors ranging from healthcare and finance to manufacturing and education, AI-driven approaches have demonstrably enhanced analytical capabilities, automated processes, and enabled personalized solutions. These advancements not only boost operational efficiency but also provide decision-makers with timely insights that drive sustainable growth and innovation. This paper examines the critical role of AI in diverse applications and its potential to establish a more resilient and technologically advanced future. In response to the rapidly evolving technological landscape, a collaborative effort is essential to harness advanced AI solutions across various industries. This special issue aims to showcase state-of-the-art research and developments in AI applications, emphasizing the convergence of innovative technologies and domain-specific challenges. By fostering a comprehensive understanding of AI's transformative potential, our goal is to drive progress towards a more efficient, innovative, and resilient society.

The Embedded Self-organizing Systems (ESS) journal features a curated set of research tracks addressing the challenges and opportunities associated with AI-driven solutions across multiple fields. Topics within this issue include, but are not limited to:

- Advanced data analysis techniques
- Predictive modeling across industries
- Integration of IoT and AI for real-time decision-making

- Disaster prediction using AI and remote sensing
- Smart agriculture and water resource management
- AI applications in IoT, robotics, and drones
- Computer vision and explainable AI development
- Eco-friendly industrial processes and waste optimization
- Sustainable AI solutions
- Automotive software solutions
- Applications of robotics in manufacturing, healthcare, and beyond

This collection of research seeks to advance the scientific dialogue on the role of AI in shaping the future, providing a platform for innovative approaches that contribute to a technologically advanced and sustainable society.

SUBMISSION INSTRUCTIONS

Submissions for the journal must be made as complete papers (there is no abstract submission stage) submitted as PDF documents. Authors are requested to submit papers reporting original research results and experience. The page limit for regular papers is 4 to 6 pages and short papers are from 2 to 4 pages. Papers should be prepared using the IEEE two-column template. An MS Word template or ESS online journal is available here https://www.bibliothek.tu-chemnitz.de/ojs/index.php/cs/information/authors

Papers should submit following link of journal:

https://www.bibliothek.tu-chemnitz.de/ojs/index.php/cs/about/submissions

Submission Deadline: 30.07.2025

The conference fee will be free.

Review in 2 weeks after submission.

Camera ready paper for publication should be submit in 2 weeks after review notes.

Thanks in advance for Your Contribution!