

## SPECIAL ISSUE on AI based Techniques in Wireless Sensor Networks

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### DESCRIPTION

This special issue in [Open Computer Science](#) focuses on AI based Techniques in Wireless Sensor Networks

AI based techniques are becoming increasingly important in wireless sensor networks (WSNs) as they enable faster, more efficient, and more reliable decision-making. AI-based techniques can be used to improve the performance of a WSN, particularly when WSNs are deployed in an uncertain environment, such as in an industrial setting. AI-based techniques can enable a WSN to better adapt to its environment by making decisions about how to route data, when to send data, and what data to send. AI-based techniques can also be used to detect anomalies and optimize the network by making decisions about how to allocate resources. AI-based techniques can also be used to identify and respond to security threats, detect and mitigate interference, and improve the accuracy of data collected. Finally, AI-based techniques can be used to reduce power consumption in a WSN by making decisions about when to turn off or on nodes and how to optimally schedule communication.

The ability of WSNs to collect and process data in real-time has made them particularly attractive for many applications. However, the data collected by WSNs is often noisy, inaccurate, and redundant, making it a challenge to extract meaningful information from the data. To address this challenge, AI-based techniques need to be employed in WSNs to enable data-driven approaches to manage and control the networks. AI based techniques can be used to analyze data in real-time and identify patterns, detect anomalies, and make decisions that can improve the performance, scalability, and security of WSNs.

Potential topics include:

- AI-based distributed sensing and communication techniques for Wireless Sensor Networks
- Learning and optimization algorithms for efficient data collection and transmission
- AI-based distributed algorithms for localization, tracking and routing
- AI-assisted secure communication in Wireless Sensor Networks
- AI-based energy harvesting and management in Wireless Sensor Networks
- Applications of AI in Wireless Sensor Networks
- AI-based cognitive radio networks
- AI-based spectrum sensing and spectrum sharing in Cognitive Radio Networks
- AI-based resource allocation and scheduling in Wireless Sensor Networks
- AI-based fault detection, diagnosis and recovery in Wireless Sensor Networks

Authors are requested to submit their full revised papers complying the general scope of the journal. The submitted papers will undergo the standard peer-review process before

they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

## HOW TO SUBMIT

Before submission authors should carefully read the [Instruction for Authors](#), available online.

Manuscripts can be written in TeX, LaTeX (strongly recommended) - the journal's [LATEX template](#). Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. **For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.**

All submissions to the Special Issue must be made electronically via online submission system Editorial Manager: <http://www.editorialmanager.com/opencs/>

All manuscripts will undergo the standard peer-review process (single blind, at least two independent reviewers). **When entering your submission via online submission system please choose the option “SI: AI based Techniques in Wireless Sensor Networks”.**

Submission of a manuscript implies that the work described has not been published before and it is not under consideration for publication anywhere else.

**The deadline for submissions is November 30, 2023**, but individual papers will be reviewed and published online on an ongoing basis.

Contributors to the Special Issue will benefit from:

- Critical peer-review
- no space constraints
- quick online publication upon completing the publishing process (**continuous publication model**)
- better visibility due to **Open Access** – free, unrestricted and permanent access to all the content
- **liberal policies on copyrights** (authors retain copyrights) and on self-archiving (no embargo periods)
- promotion of published papers to readers and citers
- **long-term preservation** – content archiving with Portico

We are looking forward to your submission!

In case of any questions please contact [Editorial Office](#) ([opencomputerscience@degruyter.com](mailto:opencomputerscience@degruyter.com))