Special Issue:
Explainable Artificial Intelligence-based Smart Sensors for Industrial IoT Applications

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DESCRIPTION

Artificial intelligence (AI) advises numerous chances to improve people's lives and advance economies and communities, but it also poses several new ethical, legal, social, and technological challenges. Explainable Artificial intelligence (XAI) is based on the premise that trust is the bedrock of communities, economies, and long-term progress. Individuals, organizations, and societies will only fully fulfill AI's promise if built in its creation, deployment, and use. We hope to introduce XAI and its six-core concepts in this proposal: (1) Medical, (2) Autonomy, (3) Beneficence, (4) non-maleficence, (5) Explicability, and (6) Justice. The Industrial Internet of Things (IIoT) aware applications such as E-Industry, E-Agriculture, E-Healthcare, E-Transport in many businesses use to quickly expand their operations. These applications are primarily defined by artificial intelligence-based sensors (AIS). Onboard intelligence and the ability to interact collaboratively or with the rest of the internet are common features. Sensors make the Internet of Things possible by gathering data that can be used to make better decisions. Sensors embedded in nodes must be effective, intelligent, context-aware, reliable, precise, and connected to ensure the high level of automation needed in today's smart aforementioned applications. Sensors must also be reliable, safe, and private for humans who interact with them. With advanced artificial intelligence technologies, wonderful possibilities emerge for detecting, identifying, and avoiding performance degradation, as well as discovering new patterns and knowledge from complex sensor datasets, all of which can help to foster product innovation, increase operational efficiency, and expand novel business models. Advanced intertwined networks of smart sensors and personalized cloud services are the means of delivering the right data at the right time to allow for faster decision making for more adaptive, agile, and scalable services that make the difference for businesses that cater to their customers' needs. However, there are still some open issues to be discussed when integrating AI, such as efficiency, accuracy, security, privacy, data trustworthiness, and quality and many.

This Special Issue is devoted to interdisciplinary research that contributes to IIoT's current power. It is seeking cutting-edge contributions to basic research that enables IIoT as well as groundbreaking industrial smart sensor IIoT applications.

The following topics are welcome but not restricted to:

- XAI Sensor devices for IIoT Applications
- XAI sensor technologies for IIoT Applications
- XAI Transport Sensor system in distributed computing
- Smart Sensors with Edge XAI Blockchain
- Wearables sensors for IIoT with fog-cloud network
- XAI-empowered self-configuration in sensors for smart IIoT applications.
- XAI for healthcare sensors.
- XAI-empowered sensing for smart cities/grid/healthcare.
- XAI sensors frameworks in Water Management System
- XAI frameworks for agriculture management
- XAI Aware system for Wind and Energy management
- XAI to process data coming from sensor networks
- XAI fusion methods to combine information from multiple sensors
- XAI and decision making to issue responses to sensor data
- XAI architectures for sensor applications
- XAI Smart IoT networks
- XAI methods to process sensor outputs
- XAI for sensor applications
- XAI based sensors for efficient energy management
- XAI enable research on AI-based sensor applications
- XAI for medical images processing
- XAI for efficient healthcare data
- XAI based optimization algorithms for industrial applications
- XAI for efficient security applications
- XAI based quantum computing for general applications
- XAI for computer networks applications
- XAI -based transparency, accountability, and explainability
- XAI and Medical data fusion;
- XAI and IoE for Analysis and Integration of Complex Systems;
- XAI and IoE for Complex Decision-Making Problems- Recent Advances and Future Trends;
- Real-time XAI for medical image and data processing;
- Feature selection for interpretable TAI classification
- Deep Neural Networks for medical image detection, recognition, and segmentation,
- Use cases for XAI in Smart Cites
- XAI and IoE for Enginnering Applications;
- XAI and IoE for Intelligent Multi-Criteria Decision-Making Methodologies;
- XAI and IoE for Optimization Problems;

HOW TO SUBMIT

Before submission authors should carefully read the Instructions for Authors and Publication Ethics

All submissions to the Special Issue must be made electronically via the online submission system
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degruyter.com/jisys

All manuscripts will undergo the standard peer-review process (single-blind, at least two independent reviewers). When entering your submission via the online submission system please choose the option **"SI Explainable Artificial Intelligence".**

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

IMPORTANT DATES

Submission of manuscript: 30.10.2024

We are looking forward to your submission!

In case of any further questions please contact:
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