Call for Papers

Securing and Managing Advanced Technologies for Industry 4.0 (SAMAT 4.0)
– COMSNETS Workshop 2025

Important Dates

Paper Submission deadline:	**27th October 2024 (AoE)**
Notification of Acceptance:	**3rd December 2024**
Camera-ready Submission:	**10th December 2024**
Workshop Date::	**10th January 2025**

Workshop Overview

As Industry 4.0 revolutionizes the industrial landscape with interconnected systems, automation, and data-driven insights, advanced technologies become vital in addressing the pressing issues of security, privacy, and operational efficiency. This workshop aims to explore the effective deployment of innovative technologies such as machine learning (ML), artificial intelligence (AI), deep learning, edge computing, the Internet of Things (IoT), Cyber-Physical Systems (CPS), and blockchain to enhance the security and efficiency of Industry 4.0 environments. By analyzing real-world applications, emerging trends, and best practices, we seek to unveil the transformative power of these technologies in shaping future industrial ecosystems.

The workshop calls for submissions on a diverse array of topics integral to the advancement of Industry 4.0. We welcome contributions that delve into ML and AI-driven security solutions, edge computing frameworks, blockchain implementations, and more. The workshop will highlight the synergy between different technologies, emphasizing their collective impact on the evolution of industrial systems. Through interdisciplinary collaboration, we aim to push the frontiers of innovation and drive significant progress in Industry 4.0.

We encourage original and high-quality submissions related to any of the following topics (but not limited to):

1. **Exploration of AI and ML in Security:**

- Approaches in fortifying security measures and detecting anomalies
- Approaches for threat mitigation and incident response
- Applications of deep learning techniques in predictive maintenance

2. **Edge Computing and IoT Integration:**

- Design and implementation of scalable IoT platforms
- Middleware solutions for IoT interoperability
- The integration of edge computing architectures and IoT devices
- Facilitating real-time data processing, analysis, and decision-making at the network edge

3. **CPS for Automation and Interoperability:**

- Integration of Cyber-Physical Systems architectures, enabling seamless automation and control
- Interoperability across heterogeneous industrial assets

4. **Blockchain for Data Integrity and Traceability:**

- Technologies for real-time supply chain visibility and tracking.
- Autonomous systems for supply chain operations.
- Data integrity, traceability, and transparency in supply chains,

5. **Smart Sensors and Actuators**

- Development of advanced sensing technologies
- Integration of smart sensors in industrial processes

6. **Big Data Analytics for Process Optimization**

- Techniques for big data collection, storage, and management
- Predictive analytics for optimizing production processes

7. **AR and VR in Industrial Training and Maintenance**

- Augmented reality for enhancing maintenance procedures
- Virtual reality for immersive training and simulation

8. **Digital Twin Technology for Real-Time Monitoring**

- Creating and managing digital twins of industrial assets
- Using digital twins for real-time simulation and optimization

9. **Sustainable Manufacturing Practices**

- Implementing energy-efficient production techniques
- Reducing waste and promoting circular economy principles

10. **Standardization and Interoperability in Industry 4.0**

- Creating and adopting industry standards for communication protocols
- Ensuring interoperability between diverse industrial systems

11. **Regulatory and Ethical Considerations**

- Addressing ethical implications of automation and AI
- Compliance with industry regulations and standards for data privacy and security

Submission Guidelines
- The SAMAT 4.0 invites submission of original work not previously published or under review at another conference or journal.
- Submissions (including title, author list, abstract, all figures, tables, and references) should not exceed 6 pages.
- Reviews will be double-blind: authors name and affiliation should not be included in the submission.
- Submissions must follow the formatting guidelines as given on IEEE Website, and those that do not meet the size and formatting requirements will not be reviewed.
- All papers must be in Adobe Portable Document Format (PDF) and submitted through the SAMAT Workshop submission site on EDAS.
- All workshop papers will appear in conference proceedings and be submitted to IEEE Xplore and other Abstracting and Indexing (A&I) databases.

Papers can be submitted through HOTCRP: <TBA>.

For any queries, please contact us at comsnets.workshop@gmail.com

Technical Program Committee

<TBA>

Workshop Co-Chairs:

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