

  
**ICDMIS 2024****International Conference on Data Mining and Information Security  
(ICDMIS 2024)**

*Organized by*  
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**Date: 7<sup>th</sup> – 8<sup>th</sup> October, 2024 (Hybrid Mode)**

**\*\*\*\*\* CALL FOR PAPERS \*\*\*\*\***

**SPECIAL SESSION**

**Recent Trends and Challenges in Intelligent Computing, and Communications**

**SESSION ORGANIZERS:**

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**SESSION DESCRIPTION:**

The objective of this study is to comprehensively analyze and understand the recent trends and challenges in the domains of intelligent computing, and communications. Discuss the latest advancements in intelligent computing and communication technologies, including developments in artificial intelligence, machine learning, natural language processing, and data analytics, and their impact on communication systems. Identify emerging technologies that are shaping the landscape of intelligent computing and communications, such as edge

computing, quantum computing, Internet of Things (IoT), and 5G/6G networks. Explore various applications and use cases of intelligent computing in communication systems, such as smart cities, autonomous vehicles, healthcare, finance, and industry 4.0, and discuss their implications and challenges. Identify challenges and limitations faced by intelligent computing and communication technologies, such as security and privacy concerns, scalability issues, interoperability challenges, and ethical considerations. Discuss the socio-economic impacts of intelligent computing and communication technologies, including their potential to drive innovation, create new business opportunities, transform industries, and shape the future of work and society. Facilitate collaboration and knowledge sharing among researchers, practitioners, industry experts, and policymakers working in the field of intelligent computing and communications. Explore future research directions and opportunities in intelligent computing and communication technologies, including areas for further innovation, investment, and interdisciplinary collaboration.

## RECOMMENDED TOPICS:

The "Recent Trends and Challenges in Intelligent Computing, and Communications" special session offers a great chance to examine and talk about the most recent developments in these related fields of study. Topics to be discussed in this special session include (but are not limited to) the following:

### **Artificial Intelligence (AI) and Machine Learning (ML):**

- Deep learning advancements and applications in communication systems.
- Reinforcement learning for optimizing communication protocols and network management.
- Federated learning for distributed intelligence in communication networks.
- Explainable AI and interpretable machine learning for transparent decision-making in communications.

### **Edge Computing and Edge Intelligence:**

- Edge computing architectures and their implications for communication networks.
- Edge intelligence for real-time data processing and analysis in IoT applications.
- Resource allocation and optimization techniques for edge computing environments.
- Security and privacy challenges in edge intelligence-enabled communication systems.

### **5G/6G Networks and Beyond:**

- Emerging technologies and standards in 5G and 6G communication networks.
- Millimeter-wave communication systems and beamforming techniques.
- Network slicing for customized services and applications in 5G/6G networks.
- Integration of AI/ML techniques for self-organizing and self-optimizing networks.

### **Internet of Things (IoT):**

- IoT communication protocols and standards (e.g., MQTT, CoAP, LoRaWAN).
- Edge analytics and intelligence for IoT devices and sensors.
- Energy-efficient communication strategies for IoT networks.
- Security and privacy challenges in IoT-enabled intelligent systems.

### **Security and Privacy in Intelligent Communication Systems:**

- Secure and privacy-preserving communication protocols.
- AI-driven cybersecurity solutions for threat detection and mitigation.
- Privacy-enhancing technologies (PETs) for intelligent communication systems.
- Block-chain and distributed ledger technologies for secure communication and transactions.

### **Human-Machine Interaction:**

- Natural language processing (NLP) for human-computer interaction in communication systems.
- Emotion recognition and sentiment analysis for enhancing user experience.
- Assistive technologies and accessible communication interfaces for diverse user groups.
- Ethical considerations in designing intelligent communication systems.

### **Cross-disciplinary Applications:**

- Intelligent communication systems for smart cities and urban infrastructure.
- Healthcare applications of intelligent computing and communication technologies.
- Autonomous vehicles and intelligent transportation systems.
- Industry 4.0 and smart manufacturing: communication challenges and solutions.

## PUBLICATION AND SUBMISSION PROCEDURE

The conference aims at carrying out double-blind review process. The papers submitted by the authors will be assessed based on their technical suitability, the scope of work, plagiarism, novelty, clarity, completeness, relevance, significance, and research contribution. The conference proceedings will be published in **Springer LNNS Series (Scopus)**.

Submission Link: <https://cmt3.research.microsoft.com/ICDMIS2024>

Submission Deadline: 30<sup>th</sup> June, 2024

**NOTE: While submitting the paper in this special session, please specify [Recent Trends and Challenges in Intelligent Computing, and Communications] at the top (above paper title) of the first page of your paper.**

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