

# IEEE Transactions on Consumer Electronics

## Call for Papers

### Special Section on “Emerging signal processing techniques and protocols for interconnected consumer electronics”

#### Theme:

With an emphasis on emerging signal processing techniques and communication protocols, this special section provides insight into the complex web of interconnected consumer electronics. As consumer electronics become increasingly incorporated into critical sectors such as healthcare, automotive, and smart homes, it becomes increasingly important not only to ensure robust and secure data transmission but also to emphasize reliability, physical layer security, and functional safety as underpinnings.

This special section aims to connect academic knowledge with industry insights, highlighting ways to improve the effectiveness and safety of consumer electronics while addressing both challenges and innovative solutions associated with signal processing and communication protocols. This special section anticipates the unveiling of technological breakthroughs and fosters rich, multi-dimensional discussions on the technical, ethical, and practical paradigms of deploying interconnected consumer electronics. As a result, this special section seeks to initiate dialogue among the scientific and professional communities, particularly with regard to the crucial integration of reliability, physical layer security, and functional safety in present-day and future digital environments.

#### Topics of interest in this Special Section include (but are not limited to):

- Signal processing techniques for reliable data transmission
- Algorithms and protocols ensuring physical layer security
- Strategies for maintaining functional safety in electronic interactions
- Application of AI in optimizing communication protocols
- AI-empowered resource management in edge wireless networks
- Integration strategies for IoT within interconnected consumer electronics
- Efficient and secure data transmission in interconnected consumer electronics
- Ensuring user privacy and data protection in interconnected systems
- Mitigation of vulnerabilities in interconnected consumer electronics networks
- Case studies reflecting the impact of AI in signal processing
- Evaluative methodologies assessing the performance of communication protocols in consumer electronics applications

#### Important dates:

- End of submission of Manuscripts: **February 29, 2024**
- Expected publication date (tentative): 4<sup>th</sup> Quarter 2024

#### Guest Editors:

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### Instructions for authors:

Manuscripts should be prepared following guidelines at: <https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html> and must be submitted online following the IEEE Transactions on Consumer Electronics instructions: <https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html>. During submission, the Special Section on "**Emerging signal processing techniques and protocols for interconnected consumer electronics**" should be selected.