Special Issue

Advanced Robust Processing Techniques and Sensor Technologies for Complex Radio Frequency Signals

Message from the Guest Editor

This Special Issue emphasizes advanced methodologies and cutting-edge technologies aimed at enhancing the processing, detection, and analysis of complex radio frequency (RF) signals in various dynamic environments. It offers valuable insights into the latest advancements in RF signal processing to improve performance and efficiency in wireless communication, radar, IoT, and sensor-based applications. The highlights include passive RF sensing, enabling non-intrusive spectrum monitoring and real-time sensing of the RF environment, and multispectral sensing and detection for enhanced signal detection across various frequency bands. AI and machine learning algorithms are explored for automating signal classification, detection, and prediction while addressing challenges such as the mismatch between training and testing data. Additionally, the journal highlights the use of high-fidelity RF digital twins, virtual models that simulate RF systems for testing and optimization before deployment, and their integration with advanced sensing technologies to enable more precise RF system performance and real-time monitoring.

Guest Editor

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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