Special Issue

Recent Advances in Low Power Wide Area Networks (LPWAN) and Long Range (LoRa) Network

Message from the Guest Editors

Low-Power Wide-Area Networks (LPWAN) emerged in recent years to fill a gap in the wireless Internet of Things (IoT) ecosystem in terms of long-range and low-power communication at the expense of high transmission airtimes, which makes them a core component of Machine-to-Machine (M2M) communications. With LoRaWAN having become a key player in the machine-type communication domain, other promising communication standards are starting to raise the attention of both industry and academia. While leveraging a wide application scope in the Industrial IoT domain (IIoT), ranging from agriculture to manufacturing or logistics, most LPWAN standards still lack the required robustness and reliability under constrained scenarios such as massive or battery-operated deployments. Recent advances in the Artificial Intelligence (AI) and Machine Learning (ML) domains are expected to bring numerous benefits in terms of efficient network scheduling and resource allocation. However, the constrained nature of battery-operated devices with limited memory and computational resources still poses a significant challenge for real-world implementations.

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