IoT-Based Cyber-Physical Communication Architecture: Challenges and Research Trends

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Message from the Guest Editor

Internet of Things (IoT) applications and Cyber-Physical Systems (CPS) increasingly propagate into service industries and everyday routines. Their connectivity is key to smart services relying on and controlling cyberphysical devices that enable sensing, collecting, processing, and sharing data. For dynamic and user-centered development, a challenging task is the definition of a communication architecture, as it needs to keep pace with technological progress and transformative needs. The architecture should support a variety of stakeholders, including developers, providers, and consumers. They need to collaborate in design and engineering when trying to meet organizational and technological requirements by a cyberphysical communication architecture.

In this Special Issue, key challenges and opportunities for IoT-based communication architectures and their development are addressed. Of particular interest are cross-cutting concerns, such as privacy, security, distributed intelligence and control, costs, complexity, and explainability. They affect requirement engineering, modeling and design, as well as implementation in distributed sociotechnical settings.

Special Issue

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