Special Session: Cybersecurity Issues of IoT in Ambient Intelligence

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Internet of Things (IoT) is characterized by heterogeneous technologies, which concur to the provisioning of innovative services in various application domains. The development of Internet of Things (IoT) give rise to a number of security-related and ethical issues which gain a new dimension in the light of the increased complexity of these technologies. Such issues include data confidentiality and authentication, access control within the IoT network, privacy, security , dependability and trust among users and things, and the enforcement of security and privacy policies. Ambient intelligence refers to the ability of devices to interact seamlessly with their surroundings. The increased use of IoT in ambient intelligence has led to a heightened concern for cybersecurity. Hackers could exploit vulnerabilities in the software or firmware of IoT devices to gain control of the devices or the networks they are connected to. They could also use ambient intelligence systems to collect sensitive data from IoT devices. In order to protect these devices, it's essential to understand the various types of attacks that are possible and deploy appropriate security measures. Researchers have observed that the ubiquitous advancement of IoT and the placement of unsecured and unattended IoT devices throughout homes and businesses will increase exponentially, opening up opportunities for hackers to exploit critical vulnerabilities. Hence, both research and practical aspects of security , privacy , trust and dependability considerations in IoT are of interest. The main goal of the Special Session is to present and discuss recent advances in the area of the cybersecurity correlated to IoT context. This Special Session will provide an opportunity for scientists, engineers and researchers to discuss new applications, design problems, ideas, solutions, research and development results, experiences and work-in-progress activities in this important technological area.

I cordially invite authors who wish to present original papers or reviews on the following topics:

- Cyber Security in the Internet of Space
- CyberSecurity and Industrial IoT
- CyberSecurity in Smart Cities
- CyberSecurity and AI
- Privacy Shield for Smart Assistants
- IoT Secure Design Framework
- Insecure IoT hardening (must include security by design & by default)
- Automated Threat Modeling using AI
- Blockchain Ledger Hijacking or Tampering
- Blockchain Privacy Hacking or Hardening
- Trials and use case discussion.
- Formal security and resilience analysis on AI.
- IoT security, trust, and trustworthy
- Secure and privacy-preserving IoT communications
- Cognitive models and bio-inspired AI.
- AI-assisted critical infrastructure security.