Intelligent Internet of Things and Advanced Machine Learning Techniques for Smart Cities

Special Themes:
- **Digital Twins for smart building, EMS, and neighborhoods**
- **Connected cars and vehicular networks solutions**

This special track focuses on Machine Learning (ML), and Artificial Intelligence (AI) challenges in smart cities, mainly concentrate on distributed-to-centralized ML and AI techniques (D2C-ML&AI) for smart cities through large-scale Internet of Things (IoT) networks. Please visit further information about D2C-ML&AI, [https://fmezen.no/3scity-e2c-special-track-2021/](https://fmezen.no/3scity-e2c-special-track-2021/).

Topical Area of Tracks:

**Sub-Track I- Large-Scale IoT Management & ML/AI**
1. ML and AI techniques for Large-Scale IoT networks management of Smart Cities.
2. Federated and Replicated Learning in Large-Scale IoT networks management of Smart Cities.

**Task 1- Different business domains of smart cities & ML/AI**
- Digital Twins for smart building, EMS, and neighborhoods.
- Connected cars and vehicular networks solutions.

**Task 2- Edge-to-Cloud orchestration & ML/AI**

**Task 3- Performance and Economic Efficiency & ML/AI**
- Performance efficiency in comparison of different learning and predict approaches.
- Economic efficiency in comparison of different learning and predict approaches.

**Sub-Track II- Cybersecurity & ML/AI**
1. On-device privacy-preserving Learning.
2. Security and privacy aspects of Federated and Replicated Learning.
3. Combating cyberattacks using AI through Edge-to-Cloud networks, including adopting traditional ML methods and existing deep learning solutions.
4. Distributed and distributed-to-centralized learning approaches to predict different IoT cybersecurity requirements of Smart Cities, such as anomaly detection challenges (threat and attack detection).

**Task 1- Malware & ML/AI**
- Malware detection/treatment for Large-Scale IoT networks via Federated and Replicated Learning approaches.

**Task 2- Blockchain & ML/AI**
- Blockchain for Federated and Replicated Learning.

**Sub-Track III- Resource Management & ML/AI**
1. Distributed and distributed-to-centralized learning approaches to predict different IoT resource requirements of Smart Cities.

- IEEE COINS 2021 will publish accepted papers in the conference proceedings and the proceedings will be submitted to the IEEE Xplore Digital library and indexing services.
- Selected best contributions of IEEE COINS will be invited to submit expanded versions of their studies to IEEE IoT Journal (IF=9.936) for review and potential publication.