IEEE COINS 2021
IEEE International Conference on Omni-layer Intelligent systems

Call for Papers

Barcelona, Spain
August 23-25, 2021
https://coinsconf.com

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

<u>Special Themes:</u>
- 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/.

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.
3) Scalable and reliable framework for Federated and Replicated Learning.

   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.

Submission of Regular Papers
April 30, 2021

Notification of Paper Acceptance
June 30, 2021

Track Organizer and Idea Creator

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Scientific Committee

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- Vitor Barbosa Souza, Universidade Federal de Viçosa (UFV), Brazil
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+ IEEE COINS 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 IoTJ (IF=9.936) for review and potential publication.