



2nd International Conference on Electronic Systems and Intelligent Computing (ESIC-2021)

Organized by : KIIT Deemed to Be University and World Leadership Academy
Date 5th-6th November, 2021



2nd International Conference on Electronic Systems and Intelligent Computing (ESIC-2021) (<http://icesic.com/index.html>)

Call for Paper

Special Session: Recent Advances on Machine learning and Deep Learning in Edge-IoT Environment

Theme of the Session:

The deployment of advanced technologies in IoT and the arrival of the concept of 5G transform the way data is being handled, processed, and delivered services around the world. In such technology, real-time data processing and fast responses are a significant challenge and future demand for latency-sensitive applications. The Edge-IoT computing solutions may overcome such challenges by including edge computing in IoT deployments. In this concept, all the Edge-IoT applications and services are deployed at the network's edge, similar to the WiFi hotspot scenario. The edge gateway can offload the computation and communication load from the system. This enhanced the data processing, reduced transmission time, lower latency, and improved the system's overall efficiency.

The Edge-IoT computing evolutions provides several architectural solutions where the time and system performance of the application is the utmost priority. Regardless of its advantages, several challenges were arises while implementing the approach in real-life applications. Such challenges include security and privacy issues, latency, power consumption, remote access, constraints of computing devices, connectivity, and many more. Machine Learning (ML) and Deep Learning (DL) is one of the implementation solutions that makes the edge more intelligent and can overcome most of the challenges.

Machine/Deep learning models assist augmented and virtual reality, connected vehicles, industrial IoT, connected vehicles, augmented reality, video analytics, image processing, smart cities, smart grids, and smart healthcare use cases by recognising abnormalities and trends in data streams and triggering relevant actions. Because of its excellent observation capacity, ML/DL has made significant strides in recent years. Edge computing and deep learning combined will undoubtedly shed light on current issues, allowing for more desirable applications. On the one hand, edge-computing applications urgently require deep learning's robust processing skills to handle various complex scenarios, such as video analytics, transportation control, and so on. On the other hand, Edge-IoT computing has created custom hardware foundations and platforms to support better deep learning phenomena at the edge. With the support of the edge layer and the graphics processing systems, the machine learning models are trained on a cloud-scale and pushed to the edge.

This special session is intended to elaborate on the recent advances in Machine learning and Deep Learning Techniques in Edge- IoT Environment. In this special session platform, various researchers and academicians from multiple backgrounds can submit/demonstrate their novel and unpublished work and address research challenges present in the Edge-IoT environment.

The topics of this special session include, but are not limited to:

- The current state of ML and DL in Edge-IoT
- Architectural solutions for Edge-IoT
- Technical advances for Edge-IoT using ML and DL
- Challenges and opportunities for Edge-IoT
- Deployment tools and techniques for Edge-IoT using ML and DL
- Security and privacy issues in Edge-IoT
- ML and DL modelling techniques for workload management
- Data analytics for Edge-IoT using ML and DL
- Modelling and system performance strategies for Edge-IoT using ML and DL
- Collaborative learning (Federated learning) models for Edge-IoT
- Intelligent services and applications for Edge-IoT using ML and DL
- Healthcare solutions for Edge-IoT using ML and DL
- E-commerce solution for Edge-IoT using ML and DL
- Disaster Management for Edge –IoT using ML and DL
- Legal assistance for Edge-IoT using ML and DL
- Safer social media solution for Edge-IoT using ML and DL
- Video analytics for Edge-IoT using ML and DL
- Adaptive streaming for Edge-IoT using ML and DL
- Autonomous driving for Edge-IoT using ML and DL
- Traffic analysis and prediction for Edge-IoT using ML and DL
- Smart city solutions for Edge-IoT using ML and DL

Paper Submission Process:

Please submit your paper (in pdf format) at <https://easychair.org/my/conference?conf=esic20210#> and send the submission ID to email: ashish.singhfcs@kiit.ac.in cc to sunil.saumya@iiitdwd.ac.in with “*Submission for Special Session on Recent Advances on Machine learning and Deep Learning in Edge-IoT Environment*” mentioned in the subject line.

For more details of this special session you can visit official conference website at : http://icesic.com/special_session.html

For any further queries related to this special session, please contact the session chairs at:

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