IEEE DML-AIoT 2025

The International Workshop on Distributed Machine Learning for Artificial Intelligence of Things (DML-AIoT)

In conjunction with IEEE TrustCom 2025

Call for paper

Artificial Intelligence of Things (AIoT) is a rapidly evolving concept that combines the power of Artificial Intelligence (AI) with Internet of Things (IoT). It integrates the capabilities of intelligent algorithms and Machine Learning into traditional IoT systems, enabling them to perform tasks autonomously and make smart decisions based on data analytics. As the world becomes increasingly connected, the demand for AIoT solutions is expected to skyrocket in the coming years. Meanwhile, data security concerns and resource heterogeneous conditions make AIoT face great pressure on remote data sharing and processing, which hinders the extensions of various data-driven AI applications. Traditional AI technologies need to gather a huge amount of data including user private information at a central server for data analysis and model training. Due to increasing concerns about data privacy issues, AIoT devices may not be willing to share their data to participate in model training, thus significantly hindering the development of AIoT.

Distributed Machine Learning (DML) is offering new opportunities in enabling model training by coordinating multiple AIoT devices without sharing raw datasets, which facilitates building intelligent and privacy-enhanced AIoT systems, such as Federated learning (FL) and Split Learning. However, DML does not explicitly address some more practical challenges, including data heterogeneity, Byzantine attacks, as well as privacy leakage of model parameters.

This workshop aims to provide a forum for international researchers from both academia and industry to exchange ideas, and discuss novel ideas, theories, frameworks, and testbeds for the promotion of Distributed Machine Learning for Artificial Intelligence of Things. The topics of interest include, but are not limited to, the following:

- Privacy-preserving distributed machine Learning for AIoT
- Byzantine-robust distributed machine learning for AIoT
- New distributed machine learning architectures for secure and robust AIoT systems
- AI for edge computing
- AI for IoT security and privacy
- Optimized blockchain for IoT
- Privacy-preserving data sharing, and anonymization for AIoT.
- Privacy attacks on AIoT systems.
- Secure multi-party computation techniques for machine learning.
- Relations of privacy with fairness, transparency, and adversarial robustness.

Important Dates

- **Paper submission deadline: 1 August, 2025**
- **Author notification: 5 October, 2025**
- **Final manuscript due: 20 October, 2025**
- **Registration due: in accordance with TrustCom 2025**

Submission Instructions

All papers need to be submitted electronically through the conference submission website https://edas.info/N34108 with PDF format. The conference applies single-blind peer review. The materials presented in the papers should not be published or under submission elsewhere. Each paper is limited to 8 pages (or 12 pages with over length charge) including figures and references using IEEE Computer Society Proceedings Manuscripts style (two columns, single-spaced, 10 fonts).

Manuscript Templates for Conference Proceedings can be found at: https://www.ieee.org/conferences_events/conferences/publishing/templates.html. Once accepted, at least one of the authors of any accepted paper is requested to register the paper at the conference.

Chairs

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Contact

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