IEEE Low-Altitude Economy-Trajectory Privacy 2025

The International Workshop on 3D Spatial Trajectory Privacy Protection in the Low-Altitude Economy Systems (LAE-3DTP)

In conjunction with IEEE TrustCom 2025

Call for paper

Driven by emerging technologies such as unmanned aerial vehicles (UAVs), urban air mobility (UAM), and aerial logistics, the low-altitude economy is rising at an unprecedented pace, becoming a new engine of growth following the "digital economy." Its rapid development not only promotes the efficient utilization of low-altitude airspace resources, but also injects strong momentum into three-dimensional (3D) location-based services (LBS) for smart cities and intelligent transportation through deep technological integration..

In this context, 3D spatio-temporal trajectory data has become a core foundation for precise navigation and intelligent scheduling, and is now being widely collected and applied at scale. By incorporating altitude dimensions and timestamps, such data can accurately reconstruct motion paths in complex low-altitude environments, providing essential support for flight management, route planning, and airspace optimization. However, this type of data often contains highly sensitive information related to personal health, social relationships, and behavioral patterns. Once leaked, it may pose serious threats to individual privacy and public safety. Conventional privacy protection methods mainly focus on static defenses for two-dimensional (2D) trajectory data, lacking comprehensive consideration of altitude information, temporal dynamics, and environmental uncertainty. As a result, they fall short of meeting the privacy requirements in scenarios such as dynamic path planning and real-time airspace optimization within the low-altitude economy, underscoring the need for breakthrough solutions. At the same time, data utility must not be overlooked. In mission-critical scenarios such as emergency response and drone-based logistics — where safety and rapid responsiveness are paramount — it is imperative to establish a 3D trajectory privacy protection framework that is provably secure, dynamically adaptive, and continuously evolving. Such a framework should enable both privacy protection and the release of data value, thereby promoting the steady and trustworthy development of the low-altitude economy.

This workshop aims to provide a forum for international researchers from both academia and industry to exchange ideas and share insights on 3D spatial trajectory privacy protection in the context of the Low-Altitude Economy. Topics of interest include, but are not limited to, the following:

- Privacy-preserving trajectory protection mechanisms for low-altitude environments
- Trajectory privacy technologies for unmanned systems under airspace constraints
- Relationship among privacy, fairness, interpretability, and robustness in low-altitude scenarios
- Adversarial attacks and defense strategies on trajectory privacy in low-altitude networks
- Differential privacy methods for trajectory data in low-altitude scenarios
- Machine learning-based approaches to trajectory privacy protection in low-altitude systems
- Co-optimization of privacy protection and system availability in low-altitude applications
- Task-sensitive trajectory privacy protection for unmanned systems in the low-altitude economy
- Privacy and security in Agentic AI under low-altitude networking
- Privacy and security issues in low-altitude scenarios

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/N34124 with PDF format. The length of the papers should not exceed 6 pages + 2 pages for over length charges.

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

Minghui Min, China University of Mining and Technology, China (minmh@cumt.edu.cn)

Zhu Han, University of Houston, USA (zhan2@uh.edu)

Hongliang Zhang, Peking University, China (hongliang.zhang@pku.edu.cn)

Na Fan, Chang'an University, China (fnsea@chd.edu.cn)

Jun Feng, Huazhong University of Science and Technology, China (junfeng@hust.edu.cn)

Ningpu Zhao, Sun Yat-sen University, China (zhaopn@mail.sysu.edu.cn)

Yilin Xiao, Peng Cheng Laboratory, China (xiaoyl@pcl.ac.cn)

Contact

Please email inquiries concerning the workshop to:

Minghui Min, minmh@cumt.edu.cn.