

2026 IEEE 6th International Conference on Computer Systems will be held in Zhengzhou, China from September 18-20, 2026, sponsored by Henan University, China and IEEE China Council; Organized by School of Artificial Intelligence, Henan University.

SPECIAL SESSION 2

Advanced Computing Systems for Remote Sensing: Big Data, AI, and Real-Time Processing

In recent years, the rapid development of remote sensing satellite constellations, low-altitude UAV networks, and ground-based sensor systems has ushered the Earth observation community into a "big data era" characterized by multi-source, multi-modal, and high spatio-temporal resolution data. The daily acquisition of petabyte-scale remote sensing data far exceeds the processing capacity of existing systems, resulting in a severe bottleneck known as "data explosion but knowledge scarcity." Meanwhile, breakthroughs in computer systems technologies—such as AI foundation models, embodied intelligence, and high-performance computing—are creating new opportunities for a paradigm shift in remote sensing data processing. This special session aims to establish a frontier academic forum at the intersection of remote sensing and computer systems, focusing on two core directions: intelligent information sensing and computing architecture innovation. On one hand, we will explore intelligent information processing methods including remote sensing foundation models, multi-source heterogeneous data fusion, and embodied perception, to push the boundaries of high-precision intelligent interpretation, target recognition, and disaster warning. On the other hand, the session places special emphasis on the underlying computing systems that support these advanced algorithms—ranging from on-orbit real-time processing, cloud-edge-end collaborative computing, to integrated satellite-ground AI computing architectures. By addressing system-level designs such as edge intelligence, heterogeneous computing optimization, computation scheduling, and resource management, we aim to fundamentally overcome the real-time and scalability challenges in remote sensing data processing.

Topics of interest include, but are not limited to:

1. High-performance computing (HPC) and parallel processing of remote sensing big data
2. Edge computing and on-orbit real-time processing for remote sensing data streams
3. Efficient deep learning systems for intelligent interpretation of remote sensing images
4. Cloud-edge-end collaborative computing architectures for remote sensing data processing
5. Storage, indexing, and query optimization for remote sensing data cubes
6. Computation acceleration techniques for multi-source remote sensing data fusion
7. Lightweight and distributed training systems for remote sensing foundation models
8. Computing resource scheduling and management in the remote sensing data lifecycle
9. Remote sensing computing and simulation systems for digital twin Earth

Submission Method

submission system: https://www.zmeeting.org/submission/iccs2026_1

Template (word): <https://www.iccs.net/instruct8.5x11x2.doc>

Template (LaTeX):

https://www.iccs.net/ieee_conference_latex_template.zip

Author Guidance: <https://www.iccs.net/sub.html>



Hongtai Yao

Henan University, China

Publication



Accepted papers will be included in ICCS 2026 Conference Proceedings, which will be archived in IEEE Xplore, and indexed by EI Compendex, Scopus, and other indexing services.

Submission Deadline: June 15, 2026

Notification of Review Result: July 10, 2026

Contact us



iccs_conf@163.com

iconf-cs-2 (Remark: ICCS2026)

www.iccs.net

