# CALL FOR PAPERS

## IEEE Transactions on Computational Social Systems

### Special Issue on Perception-Aware Anomaly Understanding in Computational Social Systems: Modeling and Assessment

## 1 Overview

Contemporary computational social systems encompass complex human-human, human-machine, and machine-machine organizations within immersive metaverse environments and multimedia-rich social platforms that demand sophisticated quality assessment and anomaly understanding mechanisms. **Perception-Aware Anomaly Understanding (PAAU)** represents a fundamental paradigm that integrates perceptual quality assessment with intelligent anomaly detection across multimodal social interactions, enabling comprehensive evaluation of anomalous behaviors and their perceptual impact on immersive social experiences, multimedia content quality, and virtual environment integrity. Unlike conventional anomaly detection approaches that focus on statistical deviations within isolated digital contexts, PAAU encompasses holistic assessment of anomalous behaviors while considering their implications on user experience and system trustworthiness across computational social environments.

The rapid proliferation of LLMs, multimodal AI systems, and autonomous agents integrated into traditional and immersive social platforms creates complex interaction patterns that traditional evaluation methods cannot adequately address. Edge-cloud collaborative architectures enable distributed social computing scenarios where quality assessment and anomaly detection must operate across heterogeneous environments with varying computational resources spanning mobile applications, AR/VR devices, and IoT-enabled spaces. The emergence of multimodal social computing environments, where text, audio, visual, haptic, and behavioral modalities contribute to social interactions, demands comprehensive understanding frameworks that can assess quality and detect anomalies across multiple information channels while ensuring algorithmic fairness, privacy preservation, and environmental sustainability.

## 2 Topics of Interest

We invite original contributions that advance PAAU across computational social systems. Topics include (but are not limited to):

- **Perception-aware quality assessment** for social systems and multimedia content appropriateness evaluation
- **Intelligent anomaly detection** in social networks, deepfake detection, and emerging threat identification
- **Large AI model applications** for multimodal social system analysis and sentiment understanding
- **Edge-cloud collaborative architectures** for scalable quality assessment and real-time anomaly detection
- **Multimodal learning frameworks** combining text, image, video, audio, haptic, and behavioral modalities
- **Human-AI collaborative systems** with hybrid intelligence frameworks and trust mechanisms
- **Trustworthy AI mechanisms** including fairness assessment, bias detection, and content authenticity verification
- **Social intelligence and cognition modeling** for immersive social systems and behavior prediction
- **Socio-cultural modeling** with cross-cultural anomaly detection and adaptive system design
- **Green and sustainable social computing** with energy-efficient algorithms and environmental considerations

## 3 Submission Guidelines

Authors should prepare their manuscripts according to the IEEE TCSS submission guidelines. Manuscripts should be submitted through the online submission system, and select "Special Issue" of "Perception-Aware Anomaly Understanding in Computational Social Systems: Modeling and Assessment" under the Manuscript Category. A separate cover letter should be submitted along with your submission, and notably, if the submission is an extension of a previously published high-quality conference paper, a detailed explanation of the significant differences should be provided. All submissions undergo rigorous peer review by leading experts. We encourage interdisciplinary approaches combining computational techniques with social science insights and ethical frameworks.

**Manuscript Types:** Research papers should normally be about 10 pages in length following the IEEE Transactions format. Excess page charges may apply for papers exceeding the page limit.

## 4 Important Dates

- **Paper Submission Deadline:** June 30, 2026
- **First Decision Deadline:** September 30, 2026
- **Revision Deadline Deadline:** November 1, 2026
- **Final Decision Deadline:** November 30, 2026

## 5 Guest Editors

**Jing Liu**, University of British Columbia, Canada
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