IPCCC 2024 Call for Workshop Papers

The 43rd IEEE International Performance Computing and Communications Conference (IEEE IPCCC 2024) will be held in Orlando, Florida, USA, November 22--24, 2024. In addition to the main conference's technical program, IPCCC 2024 features different emerging topics in the workshop. We encourage submission of high-quality workshop papers reporting original work in both theoretical and experimental research areas. All presented papers will be included in the conference proceedings and **published in IEEE Xplore**.

IPCCC Workshop SUBMISSION GUIDELINES are as follows:
- Workshop paper submissions should be formatted according to the IEEE standard double-column format with a font size of 10 pt. or larger. The standard page length for **workshop regular papers is 2-6 pages**.
- Please refer to the IEEE formatting instructions for more details: http://www.ieee.org/conferences_events/conferences/publishing/templates.html.
- Submissions should represent original research results and may not be under review or accepted for publication in another venue.
- All papers should be **submitted through the EDAS system:** https://edas.info/N32705.

For any questions regarding paper submissions, please refer to the conference website (https://ipccc.org) for more details.

The following topics of interest and relevant areas are the focuses of the workshop.

Topic 1: AI-driven Digital Twins

As the advance in sensing, communications, and computing, digital twin technologies have been paid attention. With diverse sensing data relevant to a physical entity, the corresponding digital model and its intelligence can be created and utilized to enhance various interactions between the cyber and physical worlds. The intelligence of digital twins ranges from simulated behavior, predictive reactions, and autonomous behavior that are valuable to improve the original physical entity. The scopes of interest include but are not limited to the following:

- Fundamentals of Digital Twins
- Multi-modal Sensing and Modelling of Digital Twins
- Advanced Communication Networks for Digital Twins
- Real-Time Digital Twins
- Virtual-Physical Interactive Technologies of Digital Twins
- Collaborative Digital Twins
- Privacy Preservation for Digital Twins
- Innovative Applications of Digital Twins
- AI and Machine Learning Methods for Autonomous Digital Twins
- Distributed Intelligence between Digital Twins

Topic 2: Emerging Technologies toward Autonomous Intelligence

Autonomous intelligence refers to the capability of a system to operate independently without direct human intervention. As AI/ML techniques are rapidly developed, autonomous intelligence created by integrating multi-modal sensing data with advanced communication and computing systems has boosted many promising applications, such as UAV swarms, mobile navigation, and mission-oriented

robotic teams. Emerging techniques to enable self-governance, cross-modal awareness, adaptive learning, collaborative behavior, cross-domain inference, cross-entity interaction and communication are important technical features in autonomous systems. The scopes of interest include but are not limited to the following:

- Spatial intelligence and distributed intelligence
- UAV swarms
- UAV path planning and cooperation
- Robot-assisted systems
- Human-robot collaborative techniques and applications
- Connected vehicles
- Mobility analytics, tracking, localization, and navigation
- Multi-modal data fusion
- Data-driven intelligence and its applications.
- Smart Infrastructure
- ML/AI-driven personal assistants
- Robots in manufacturing and healthcare

Important Dates:

- Workshop Paper Submission Deadline: August 2, 2024
- Workshop Acceptance Notification: August 23, 2024
- Camera Ready Submission Deadline: August 30, 2024
- Workshop Date: November 24, 2024

IEEE IPCCC 2024 Workshop Co-Chairs

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