The 21st IEEE International Conference on Ubiquitous Intelligence and Computing (UIC 2024)
Special Session on Multimodal and Cross-modal Intelligence (MultimodalAI)
2 – 7 December 2024   Denarau Island, Fiji

Multimodal and cross-modal intelligence refers to the capability of AI systems to process, integrate, and understand this world from multiple sensory modalities. While foundation models tailored to specific tasks have recently achieved remarkable success within single modalities, the advent of advanced multimodal smart sensing systems has spurred demand for new paradigms in machine perception. These include cross-modal knowledge transfer and multimodal multi-task intelligent systems, enabling enhanced data processing from diverse sensory sources and potentially reshaping human-machine interaction schemes.

This special session on "Multimodal and Cross-modal Intelligence" aims to explore cutting-edge research and advancements in multimodal and cross-modal machine learning methodologies, showcase real-world applications and case studies demonstrating the impact of AI-related technologies, discuss the hardware and software systems for supporting multimodal tasks and identify future innovations in these areas. We particularly welcome papers on advanced AI research methods, such as multimodal perception learning, foundation models, cross-modal contrastive learning, generative diffusion model and explainable AI. Additionally, papers on machine learning surveys, AI applications, and case studies using AI for life science, education, robotics, autonomous vehicles, manufacturing, recommendation systems and creative industries are also encouraged. Prospective authors are invited to submit original works on topics including but not limited to:

- Multimodal sensing and data processing
- Cross-modal knowledge transfer
- Generative AI for multimedia and synthetic media
- Advanced machine learning algorithms for vision applications
- Deep learning for image and video analysis
- Natural language processing
- Reinforcement learning
- Intelligence transportation systems
- Security and surveillance
- AI ethics and fairness

Please follow the guidance in IEEE UIC 2024 paper submission site to submit your paper via EDAS (https://edas.info/N32625). Both short paper (4-6 pages) and regular papers (8 pages) are welcomed.

High-quality papers from this special session will be treated equally as regular UIC papers, with an opportunity for nomination to high-level journals after further extensions and revisions.

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