Workshop proposal – Ubiquitous Intelligent: Advanced Technologies for Future Ubiquitous Intelligence (FutureUbiq 2024) of the 21st IEEE International Conference on Conference on Ubiquitous Intelligence and Computing

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Advanced Technologies for Future Ubiquitous Intelligence

Ubiquitous intelligence, empowered by sophisticated technological advancements, is increasingly becoming integral to our daily lives, reshaping the way we interact with digital and physical worlds. This workshop dives deep into the core of future ubiquitous applications, exploring the challenges and opportunities presented by advanced modeling, architecture, and machine learning, including causality and AI explanation. It spans a broad array of cutting-edge topics such as real-time 3D tracking, depth sensing, and the simulation of physical phenomena within immersive 3D environments. Techniques in physics-based animation, real-time rendering, and decision-making systems for VR/AR/MR environments highlight the intersection of computational power and user-centric design in creating responsive, intuitive, and effective ubiquitous systems. Moreover, the exploration of generative modeling within these applications opens new possibilities for creating dynamic and adaptive environments. This workshop is designed to foster a comprehensive understanding of these technologies, from their theoretical foundations to practical applications, paving the way for innovations that enhance and expand the capabilities of ubiquitous intelligence across various domains.

This workshop aims to delve into a comprehensive array of innovative technologies, methodologies, and models that are pivotal in shaping the landscape of future ubiquitous intelligence. Emphasizing practical applications and theoretical advancements, the discussion will cover a broad spectrum of areas. Possible topics include but are not limited to:

- Advanced modeling and architecture in future ubiquitous applications
- Causality machine learning in ubiquitous applications
- Liveness detection

- AI Explanation in ubiquitous applications
- 3D Tracking / 3D Modeling / Computer Animation / XR / Decision-making
- Real-time 3D tracking algorithms and systems
- 3D modeling techniques
- Depth sensing and 3D point cloud processing
- Simulation of physical phenomena in 3D environments
- Physics-based animation techniques
- Real-time rendering and animation in ubiquitous applications
- Immersive VR/AR/MR environments and applications
- Decision-making systems for ubiquitous applications
- Generative modeling in ubiquitous applications
- Application of multimedia technology for ubiquitous Intelligence

Chairs:

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