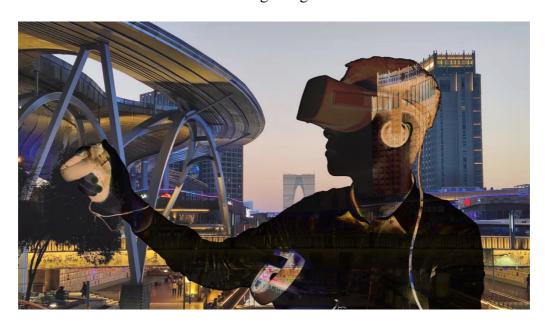# <u>Immersive Visual Storytelling</u>

Guest Editors: Dr. Cheng Hung Lo and Dr. Kata Szita

Call and Scope:

Visual storytelling makes use of temporarily-arranged graphics and images to convey narratives. From illustrations to movies and other forms of technology-enhanced media such as games, visual narratives are essential in bringing out and representing meanings, ideas, emotions, perspectives, etc., which immerse the audience into the storified space. In recent years, extended reality (including virtual, augmented, and mixed reality) has gradually become one of the essential mediums for artists and designers to create mesmerizing experiences affording purposeful narratives or messages, e.g., cinematic virtual reality. The research into immersion and presence has long been grounded at ergonomics/human factor perspectives, focusing on human performance under interactable immersive environments. However, such performance-oriented studies may not fully explain the expressive or emotional aspects of immersive experiences, especially when those aspects are deemed as the critical factors in visual storytelling applications such as VR films, games, or other narrated experiences.

There are a few fundamental specificities in working with XR as a collection of expressive media. Firstly, the viewer is usually "embodied" in an immersive scene, therefore utilizing primarily the egocentric frame of reference. Secondly, at the very minimum level, interactivity still exists to allow head or position movements, which consequently changes the views of a virtual scene. Thirdly, the stereoscopic depth resulting from disparities in left and right-eye perspectives brings out the third dimension of the virtual elements, which effectively adds another degree of freedom for creating vivid effects such as objects extruding from the

projection plane. Fourthly but not lastly, other sensory information such as haptic or sound feedback may be integrated to provide a more holistic immersive experience.

This brings up the broader perspective for immersive experience delivery. That is, to use the various forms of extended reality technologies, such as Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Physical Installations, etc. Indeed, the storified space can manifest in many forms that give a person the sense of presence in the intended constructs. The mixed-use of digital and physical set-ups allows narrative elements to be transmitted through multiple sensory channels. It is then important to understand how these narrative elements can work coordinatively in such an immersive context. In this special issue, we use *Immersive Visual Storytelling (IVS)* as an aggregated term to encapsulate the processes and approaches of using immersive technologies to deliver a narrated experience.

Although there exist practical heuristics generated and suggested by the practitioners of IVS, it remains underexplored for the scientific understanding of the characteristics of this expressive medium—especially so in the context of the rapidly developing and increasingly available technical tools and the broadening use of extended reality.

Topics:

In response to the agendas described above, this special issue calls for contributions in the research inquiries to the underlying principles, mechanisms, effects, and other related aspects of how a narrative experience is delivered through the immersive medium. The potential topics/scopes may include (but are not limited to) the following:

- Subjective presence/embodiment in IVS
- Multi-modality integration (e.g., sound, haptic feedback) to facilitate narrations
- Analytical studies of user experience
- Use of spatial or depth perception principles
- New methods or tools for IVS
- Comparative studies on delivering IVS with different systems
- IVS in different extended reality technologies (VR, AR, MR)
- Audience immersion in IVS
- Gaming or gamification perspectives to IVS
- Ethical indications of IVS and its applications for personal well-being and broader challenges

We anticipate that the collection of research in this special issue will inform both researchers and practitioners interested in IVS with novel principle knowledge, design insights, and creative and research agendas. All researchers with relevant ongoing works are cordially invited to contribute to this special issue that aims to position IVS as a critical theme in expanding the studies of virtual presence, embodiment, and immersion.

Important Dates:

Paper Submission Deadline: April 30th, 2022
Author notification: July 31st, 2022
Revised papers submission: October 31st, 2022
Final Acceptance: December 20th, 2022

Submitted manuscripts should conform to the journal's submission guidelines, available at the MIT Press website https://www.mitpressjournals.org/journals/pres/sub

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Dr. Cheng-Hung Lo is a researcher, educator, and digital artist working at the intersections of Arts, Culture, and Technology. With an interdisciplinary background spanning Psychology, Computer Science, and Design, he investigates how humans perceive and behave around artifacts in both physical and virtual contexts. His research has generated a wide range of published works in ergonomics, affective design, intelligent manufacturing, design visualization, and creative artificial intelligence. He has engaged dually in scientific research and creative practice in his academic career. The multi-facet experience enables him to work in various practice areas from creative ideation to production, with which process serves well to media, cultural, and product consumptions. The creative works produced by his design team have been exhibited and crowned with several awards at events held at both local and international levels.

He is the founder and director of the Virtual Reality Lab in his current school. Current research in the lab includes: Perceptually-Informed Visualization, Cinematic Virtual Reality, Game Experience, and Cultural Innovative Design.

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Dr. Kata Szita is a Marie Skłodowska-Curie research fellow at the Trinity Long Room Hub Arts and Humanities Research Institute and ADAPT Centre of Excellence for AI-Driven Digital Content Technology at Trinity College Dublin, Ireland. Her research involves the cognitive studies of immersive digital media and she has authored a wide range of publications on attention, recollection, narrative engagement, and social behavior in terms of smartphone spectatorship, cinematic virtual reality, and social virtual reality. Currently, she leads interdisciplinary and cross-sector research projects on user experiences in social virtual reality and augmented reality and, as a collaborator, is involved in studies of processing fictional information, online youth behavior, and digital personas.