IEEE CONSUMER ELECTRONICS MAGAZINE
- SPECIAL ISSUE CALL FOR ARTICLES -

Metaverse and eXtended uniVerse (XV): Opportunities and Challenges for Consumer Technologies

XV (eXtended meta/uni/Verse) combines XR (eXtended Reality), XI (eXtended Intelligence), XB (eXtended Being, including Digital Twin), XE (eXtended Economy), and XS (eXtended Society) into a vision that covers the generally agreed scope of metaverse while extending the impacts and emphasizing the implications on our consciousness and humanity. XV is the next evolution at the nexus of the Internet as a single-yet-distributed, persistent, and shared immersive virtual + augmented and intelligent environment. Consumer technologies are regarded today not as just a key element to foster the success of XV, but as a fundamental cornerstone for their adoption at a mass scale. One of the essential factors is related, for instance, to accessibility of platforms, and to the ease of use and ergonomics of devices enabling the end-users to immerse in digital environments in a seamless and effortless way. There are indeed many other challenges set by the wide range of involved technologies, required, e.g., to let millions of users interact in the same shared XV space synchronously, both from the perspective of networking but also of security, user experience, etc. It will also be necessary to define open XV standards to support a whole ecosystem of experiences, with a multitude of use cases coexisting in a single XV possibly made of diverse, interoperable instances. Consumer technologies are also asked to provide tools for coping with the emerging issues brought by XV, concerning, among others, data privacy and authentication, ethics, social and societal aspects, and sustainability. Papers contributing to this Special Issue are expected to report on original research outcomes about how consumer technologies can be leveraged to make XV possible, coping with both current and emerging opportunities and challenges. We especially encourage submissions related to one or more of the below topics.

TOPICS OF INTEREST

- XR (eXtended Reality), VR, AR, XI (eXtended Intelligence), and immersive technologies
- Sensing, IoT, MEP/AEC (construction, architecture)
- 3D reconstruction, visualization, and digital twins
- Virtual, embodied, and intelligent environments + agents
- Wearables, HMI, ergonomics, UI/UX, and XV hardware
- Blockchain, digital assets ownership and authoring
- Data protection, security, and privacy
- Networking and communication architectures
- Social, ethical, accessibility, and legal aspects
- Technological barriers, democratization, and sustainability
- Consumer technologies enabling use cases in manifold domains including, e.g., education and training, health and medicine, industry and manufacturing, cultural heritage, arts, entertainment, gaming, etc.

AUTHOR GUIDELINES

IEEE Consumer Electronics Magazine (CEM) publishes peer-reviewed articles that present emerging trends, key insights, tutorials, practical experiences, design, and industry-related research & developments of mainstream consumer electronic products, technologies, and related fields of interest to the membership of the IEEE Consumer Technology Society (CTSoc) and broad engineering audience. CEM aims to educate and entertain on general topics related to consumer technologies and electronic products.

Submissions must follow IEEE MCE Template available in IEEE Template Selector - https://template-selector.ieee.org/ - and should consist of the followings: (i) A manuscript of maximum 6-page length (overlength page charges are listed below): A PDF of the complete manuscript layout with figures, tables placed within the text, and (ii) Source files: Text should be provided separately from photos and graphics and may be in LaTeX or Word format. High-resolution original photos and graphics (300 dpi) are required for the final submission. Images embedded in Word or Excel documents are not suitable; however, figures and graphics may be provided in a PowerPoint slide deck, with one figure/graphic per slide.

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An IEEE copyright form will be required. The manuscripts need to be submitted online using the following URL: http://mc.manuscriptcentral.com/cemag. This ScholarOne site will automate the generation of a single submission document if the authors have the correct files prepared in advance.

OVERLENGTH PAGE CHARGES

Articles exceeding 6 pages during author proof will be charged at US$ 250 per page for extra pages beyond first allowed 6 pages.

IMPORTANT DATES

- *ARTICLE SUBMISSION DUE:* May 15, 2023
- *FINAL ACCEPTANCE NOTIFICATION:* September 30, 2023
- *APPROX. PUBLICATION DATE IN PRINT:* Q2 2024

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