

2023 IEEE International Conference on Omni-layer Intelligent Systems (COINS), Berlin, Germany, 23-25 July 2023

Beyond reality: An application of extended reality and blockchain in the metaverse

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<https://ieeexplore.ieee.org/document/10189285>

Abstract

The convergence of Fourth Industrial Revolution (4IR) technologies and Web2 to Web3 transformation, presents significant benefits and opportunities for industry. This study explores the integrated benefits of Extended Reality (XR) and Distributed Ledger Technology (DLT) in a Metaverse application for virtual consulting. Since XR enhances collaboration using visualization, and DLT ensures transactional security and privacy, an overview of XR and DLT technology is provided, highlighting their specific benefits and challenges concerning Remote Health and Wellness consulting. The paper proposes a Metaverse solution to leverage these benefits, enabling more affordable and accessible healthcare consulting in developing economies. A key outcome of the research is to develop a metaverse prototype that bridges the gap between Web 2.0 and Web 3.0 technologies. By doing so, it aims to improve usability for end-users, drive the adoption of XR and Blockchain, generate new business models, and unlock new revenue streams for industry and underserved communities.