

The Past Present and Future of Virtual and Augmented Reality

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Abstract: *Mixed Reality Interfaces (MRITFs) like the Hololens and low-cost virtual reality (VR) machineries similar to the Oculus Rift, , Sony PlayStation and HTC Vive VR are attracting the attention of users and researchers, suggesting that they may be the next largest technological innovation stepping stone. However, the VR technology's olden times is elongated than it seems: In the late 1980s, the initial marketable VR tools seemed, and the concept of virtual reality was developed in the 1960s. As a result, thousands of scientific papers have been issued over the past two decades as hundreds of researchers investigated the processes, effects, and applications of this technology. What does this significant research produce? Using cutting-edge scientometric methods, this paper will investigate the field's existing research corpus to answer this question. In the Web of Science Core Collection scientific database, we gathered all existing VR-related articles. The resulting dataset contained 21,667 VR and 9,944 AR records. The author, title, abstract, country, and all of the references (which were required for the citation analysis) were all included in the bibliographic record. The literature was analyzed using network and cluster methods, and the results revealed a symbiotic panorama marked by changes and developments over time. Indeed, whereas conference proceedings and journals were the primary forms of VR publication up until five years ago, journals are now the primary means of communication. In a similar vein, although computer science was initially the most prominent area of research, clinical areas and countries participating in VR research have both grown in recent years. The present work focuses on the anticipated future capabilities, enhancements, and difficulties of virtual reality (VR), as well as the evolution and changes that have occurred over time in the main application areas. We conclude by taking into consideration the disruptive impact that VR/AR/MRITF will have not only on scientific fields but also on human communication and interaction—much like the introduction of mobile phones did—by altering social communication and interaction as well as increasing the use of scientific applications (such as in clinical settings).*

Keywords: Virtual Reality, Augmented Reality, Quantitative Psychology, Measurement, Psychometrics, Scientometrics, Computational Psychometrics, Mathematical Psychology

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