

Title: The convergence of digital twin technology and Personal healthcare

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Abstract

The concept of Digital Twin (DT) has now been applied to various sectors of human society and the trend of using is rapidly growing despite the fact that it requires vast digital infrastructure. Regardless of their physical counterparts, the ultimate goal of using DT is to improve the quality of human life and living environment. Even though, there are numerous application areas such as manufacturing, smart city, supply chain, retail, and healthcare, in this talk, I'd like to focus more on healthcare sector starting out by discussing the convergence of the digital twin technologies and application of the technologies on healthcare especially on personal healthcare using IoT, networking technologies, standard based medical data, cybersecurity, and cloud computing. With such effort, DT will lead us to personalized precision medicine with less medical errors and the improvement of personal health.

Biography

Dr. Yeong-Tae Song has earned a MS and Ph.D. from the University of Texas at Dallas in 1993 and 1999, respectively. He has more than 8 years industry experience as a software engineer in Munro-Garrett International and a software test engineer at ODS networks, where he primarily worked on ATM (Asynchronous Transfer Mode) networks.

He has been an assistant professor at the university of Arkansas at Little Rock for two years before joining Towson University in 2001 where he currently serves as a full professor. His research areas have been software engineering, program slicing, software impact analysis, enterprise architecture, digital twin, and health information technology. He has published more than 80 conference papers and journal papers.

He has been principal investigator (PI) for numerous projects from federal (with NASA) to local industries. With federal grant (NASA), he worked on telemedicine project for astronauts. He has completed various state projects such as smart learning management system for medical personnel, Child fatality review, emergency medical info for paramedics. He also worked with a Ghanian university for electronic health record systems with clinical sensors.