

# Overview: Technology Roadmap of the Future Trend of Metaverse based on IoT, Blockchain, AI Technique, and Medical Domain Metaverse Activity

Md Ariful Islam Mozumder\*, Muhammad Mohsan Sheeraz\*, Ali Athar\*, Satyabrata Aich\*, Hee-Cheol Kim\*

\* Department of Computer Engineering/Institute of Digital Anti-Aging Healthcare/u-HARC, Inje University, South Korea

[arifulislamro@gmail.com](mailto:arifulislamro@gmail.com), [Sherazmohsin257@gmail.com](mailto:Sherazmohsin257@gmail.com), [ali.athar1401@gmail.com](mailto:ali.athar1401@gmail.com), [satyabrataaich@gmail.com](mailto:satyabrataaich@gmail.com), [heeki@inje.ac.kr](mailto:heeki@inje.ac.kr),

Corresponding Author: [heeki@inje.ac.kr](mailto:heeki@inje.ac.kr)

**Abstract**— Metaverse is defined as a collection of technology gadgets and metaverse connected to IoT, Blockchain, Artificial Intelligence, and all the other tech industries including the medical area. IoT and Metaverse are the digital twins, Metaverse is using maximum IoT devices in their virtual workstation. This data has a unique identifying tag and is used as traceable data in the blockchain-based Metaverse. In the Metaverse, such data is becoming a valuable resource for artificial intelligence. Metaverse uses artificial intelligence and blockchain technology to build a digital virtual world where you can safely and freely engage in social and economic activities that transcend the limits of the real world, and the application of these latest technologies will be expedited. In this paper, we are going to describe what technologies metaverse is using and metaverse potentiality in medical healthcare.

**Keyword**— Metaverse, IoT, Blockchain, Artificial Intelligence, Healthcare



**Md Ariful Islam Mozumder** is pursuing his Master's in Institute of Digital Anti-Aging Healthcare from Inje University. He has previously worked on multiple real-life projects related to computer vision, data sciences, Smart IoT systems, and text mining. His research interest aligns with Computer Vision, Artificial Intelligence, Bio Signal Processing, Algorithms, IoT and Blockchain.



**Muhammad Mohsan Sheeraz** is pursuing his Master's in Institute of Digital Anti-Aging Healthcare from Inje University. His research interest's area includes Blockchain and Machine Learning.



**Ali Athar** is a Ph.D. student at the Institute of Digital Anti-aging and healthcare at Inje University. His research interest's area includes Image Processing, Deep Learning, and Machine Learning.



**Satyabrata Aich** is working as a research professor in the field of computer engineering. He has published many research papers in journals in the realms of Machine learning, Text mining, and Supply Chain Management. His research interests are NLP, supply chain management, Bioinformatics, Artificial Intelligence, Blockchain.



**Hee-Cheol Kim** BSc at the Department of Mathematics, MSc at the Department of Computer Science in SoGang University in Korea, and Ph.D. at Numerical Analysis and Computing Science, Stockholm University in Sweden. He is a professor and Head of the Department of the Institute. Digital Anti-aging Healthcare, Inje University, S: Korea. His research interests include Machine learning, Text mining, Bio Informatics.