

IEEE Internet of Things Journal Special Issue on Challenges and Opportunities of IoT-based Healthcare Industry 5.0

Healthcare Industry 5.0 refers to the fifth industrial revolution in the healthcare field, in which the specific needs of patients and healthcare providers can be met. In the past, Industry 4.0 facilitated the implementation of mass customization, but this alone was insufficient. Presently, the healthcare sector is seeking to achieve mass personalization while maintaining a human touch. Therefore, Healthcare Industry 5.0 facilitates the transition from mass customization to mass personalization. It offers a customized product to patients and healthcare professionals based on their individual needs. Cloud computing, blockchain, big data analytics, the IoT, and 6G networks are some of the enabling technologies for Healthcare Industry 5.0.

Amidst the current paradigm shift, a sensor or IoT equipped with artificial intelligence will expeditiously analyze the data. Machines will possess the adaptability to make sophisticated decisions based on the requirements of patients. Within the medical domain, these technologies can accurately measure and monitor many physiological parameters of the human body according to the specific needs of the patient. This aids in monitoring the body's reaction with enhanced efficiency. It facilitates the integration of healthcare services and enables the accurate and efficient digital sharing of information.

Although Industry 5.0 offers several benefits, its implementation in healthcare faces challenges such as the need for a robust infrastructure, concerns over data protection, and ethical considerations. However, the healthcare industry is expected to undergo substantial progress in the near future as a result of the ongoing improvements in Industry 5.0.

The proposed SI will cover the broad spectrum of Healthcare Industry 5.0. Topics of interest include (but are not limited to) the following:

- IoT Protocols for Healthcare Industry 5.0
- Disease diagnosis for automated monitoring of health
- IoTs for optimized healthcare
- IoT-based precision medicine
- Embedded healthcare systems
- Big Data Analytics for Healthcare Industry 5.0
- Edge and cloud collaboration for IoT-based Healthcare Industry 5.0
- Enabling 5G/6G in IoT-based Healthcare Industry 5.0
- Privacy and security in IoT-based Healthcare Industry 5.0
- Innovative IoT applications for Healthcare Industry 5.0

Submission Guidelines:

All original manuscripts or revisions to the IEEE IoT Journal must be submitted electronically through IEEE Manuscript Central, <http://mc.manuscriptcentral.com/iot>. Solicited original submissions must not be currently under consideration for publication in other venues. Author guidelines and submission information can be found at <http://ieee-iotj.org/guidelines-for-authors/>.

Important dates:

- Submission Deadline: May 31st, 2025
- First Review Due: July 15th, 2025
- Revision Due: August 15th, 2025
- Second Reviews Due/Notification: September 15th, 2025
- Final Manuscript Due: October 15th, 2025
- Publication date: December 2025

Guest editors

Ghulam Muhammad, King Saud University, Saudi Arabia. Email: ghulam@ksu.edu.sa
Victor C.M. Leung, The University of British Columbia, Vancouver, Canada. Email: VLeung@ece.ubc.ca
Cheng-Xiang Wang, Southeast University, Nanjing, China. Email: chxwang@seu.edu.cn
Danda B. Rawat, Howard University, Washington, D.C., United States. Email: db.rawat@ieee.org
Jalel Ben Othman, University of Paris 13, France. Email: jalel.benothman@centralesupelec.fr