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Guest Editorial

Frontiers in Telemedicine and Internet of Things in Health Monitoring

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Recent research in Internet of Things (IoT) and artificial intelligence (AI) has focused on the development of highly intelligent algorithms, which greatly assists in the development of smart assistants in the near future. Both IoT and AI have become the most popular technique in recent decades with various real-time applications. Currently, IoT devices have become an integral part of our daily lives, and it generates quintillion bytes of data every day. The efficient use of machine learning algorithms reads, interprets, and utilize this data to develop smart assistants for future applications. The convergence of IoT and AI empowers the development of machines and techniques that become smart assistant for us.

This is the editorial of the "Frontiers in Telemedicine and IoT in Health Monitoring" special section of *Technology and Heath Care*. This special section features a total of 12 high-quality research papers, and it is accepted after a careful peer-review process. All of the accepted papers encompass significant elements of novelty, and they introduce interesting modeling algorithms for the development of Frontiers in Telemedicine and IoT in Health Monitoring.

The first paper entitled "Internet of Things-based Intelligent Physical Support Framework using Future Internet of Things" is authored by Yang Linping, Vicente García Díaz, and Priyan Malarvizhi Kumar. The authors introduce the "IoT assisted intelligent physical support framework" to promote educational leadership and student social interactions across physical education systems. It is observed from the experiment that the simulation results offer comparatively better results than the existing systems with improved accuracy and performance measures.

The second paper entitled "Internet of Things-based technological acceptance learning management framework for the physical education system" is authored by Hongyan Yao, Yongsheng Wang, Carlos Enrique Montenegro-Marin, and Ching-Hsien Hsu. This work presents an IoT based acceptance learning framework (IoT-TALMF) for physical education systems. It identifies the prime objectives, resource allocation, and effective team for group work in physical education. This work cut-off the unexpected cost delays in physical education and offers satisfactory results.

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In the third paper entitled "Analysis of Physical Health with Internet of Things-based Computational Narrowband Physical Health Framework," the authors Yacheng Zhu, Sivaparthipan C.B, and Vinothraj propose an IoT-based Computational Narrowband Physical Health Framework (IoT-CNPHF) to strengthen various aspects of physical education. The smart assistant model presented in this work creates awareness and improves the significance of sports in our day-to-day lives.

The fourth paper is presented by the authors Mengyao Cui, Seung-Soo Baek, Premalatha R, and Aiswarya RS, and is entitled "Internet of Things-Based Cloud Computing Platform for Analyzing the Physical Health Condition." The authors present a conceptual model for health monitoring. This approach effectively monitors the patient's health and assists in the earlier diagnosis process. The simulation results indicate improved results with better health monitoring functionalities.

The fifth paper entitled "Internet of Things-based Smart Wearable System to Monitor Sportsperson's Health" is authored by Fen Li, Rubén González Crespo, and Oscar Sanjuán Martínez. The authors present an approach called the Internet of Things-based Smart Wearable System (IoT-SWS) to effectively improve sports person health with smart monitoring facilities. The data collected from wearable devices are efficiently processed to improve sportsperson in a reliable way.

The sixth paper entitled "Internet of Things-assisted Advanced Dynamic Information Processing System for Physical Education System" is authored by Zhijun Sun, Seifedine Nimer Kadry, and Sujatha Krishnamoorthy. This work tracks and evaluates human physical activity with wearable IoT devices and AI-assisted information processing systems. The results are evaluated in terms of performance factor correlation with traditional systems, and it is found to be satisfactory.

The seventh paper entitled "Internet of Things-assisted Intelligent Monitoring Model to Analyse the Physical Health Condition" by Liang Zhuang, Awais Khan Jumani, and Asma Sbeih discusses the Internet of Things assisted Intelligent Monitoring Model (IoT-IMM) that has been proposed to improve patient health and maintain health records.

Cui Meng Yao, Parthasarathy Poovendran, and S. Stewart Kirubakaran are the authors of the eighth paper entitled "Internet of Things-based Energy-Efficient Optimized Heuristic Framework to Monitor Sportsperson's Health." The authors implement a cloud-assisted energy-efficient IoT protocol to deal with emergency situations. It efficiently tracks the fitness levels of the sportsperson based on real-time case studies.

The ninth paper entitled "Internet of Things-assisted Advanced Dynamic Information Processing System for Physical Education System" is authored by Zhi Fang, Rajendra Prasad Mahapatra, and P. Selvaraj. The authors developed an innovative framework to track the health of sports persons using IoT and Deep Neural Networks (DNN) algorithms. This approach detects sports person activity through deep learning algorithms with improved efficiency and performance measures.

The tenth paper entitled "Fog- Internet of Things-assisted Multisensor Intelligent Monitoring Model to Analyze the Physical Health Condition" is authored by Fen Li, Achyut Shankar, and B. Santhosh Kumar. This approach collects biometric data from the multisensor networks and generates emergency alerts to the mobile applications using fog assisted intelligent IoT paradigms. The simulation results depict lesser response time with improved performance measures.

The eleventh paper entitled "Soccer Player Activity Prediction Model using an Internet of Things-assisted Wearable System" is authored by Wu Lei, Wang Juan, Jinlong, and K.Marimuthu. The authors present an efficient framework using deep learning methodologies to predict the activity of real-time soccer players. The deep learning model accurately detects various actions of the soccer player (transfer, kick, sprint, run, and dribbling). The prediction accuracy of the various actions is of the ratio of 97%, and it enhances the player performance qualitatively.

The final paper authored by XiaoWei Tang, Fang Li, Tamizharasi G Seetharam, and Chandru Vignesh C presents the research work entitled "Internet of Things-assisted Intelligent Monitoring Model to Analyze the Physical Health Condition." This work presents an IoT assisted intelligent health monitoring system to predict health risks at an earlier stage of its development. This approach takes a lesser response time with improved accuracy measures.

We wish to express our sincere thanks to the Editors-in-Chief of *Technology and Heath Care* for their full support and for offering us a privilege to edit a special section in this reputed journal. We hope this special section will contribute to the existing literature in a significant way. Finally, we convey our heart-full of gratitude to the authors and reviewers for their timely contributions.