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## **1. Overview of Patient's Health Status Monitoring System Based on Internet of Things (IoT)**

**Published: 15 May 2020**

**Link: <https://link.springer.com/article/10.1007/s11277-020-07474-0>**

**Summary:** The Paper discusses the role of the Internet of Things (IoT) in healthcare, specifically focusing on electronic healthcare monitoring systems. It highlights the use of interconnected devices and wireless technologies for continuous patient monitoring and automatic prescription generation. The study explores IoT applications in the medical sector, emphasizing improved diagnostics, reduced hospital visits through remote monitoring, and valuable data contribution to scientific research. The paper adopts a descriptive research approach to analyse existing literature, aiming to enhance the overall quality of health services through IoT integration in healthcare monitoring systems.

## **2. IOT BASED HEALTH MONITORING SYSTEM**

**Published: 4, 2020**

**Link: <https://jcreview.com/admin/Uploads/Files/61a9c16c5cd5c6.82533458.pdf>**

**Summary:** The Paper underscores the heightened importance of healthcare in the context of the COVID-19 pandemic and suggests that an IoT-based health monitoring system is an optimal solution. It emphasizes the significance of IoT in healthcare, especially with the proliferation of wearable sensors and smartphones. The paper introduces a portable physiological checking framework capable of continuously monitoring vital signs and room parameters. The proposed system utilizes a Wi-Fi Module for remote communication, enabling real-time monitoring and data storage on a server. The remote health monitoring system, accessible to authorized personnel through any IoT platform, facilitates distant disease diagnosis by doctors based on the received data.

### **3. A healthcare monitoring system using random forest and internet of things (IoT)**

Published: 22 February 2019

Link: <https://link.springer.com/article/10.1007/s11042-019-7327-8>

**Summary:** The Paper discusses the transformative impact of IoT on healthcare, particularly in the realm of smart and connected health applications. It emphasizes the use of networked sensors to enable remote health monitoring, leveraging machine learning algorithms for data analysis. The authors propose a system that analyses past health data stored in the cloud to predict future health issues using prescriptive analytics. The framework aims to shift from a reactive to a visionary approach, providing real-time recommendations based on historical data. The paper evaluates the system's effectiveness in predicting various diseases, including heart diseases, breast cancer, diabetes, and more, using machine learning algorithms.

### **4. An Internet-of-Things (IoT) Network System for Connected Safety and Health Monitoring Applications**

Published: 21 December 2018.

Link: <https://www.mdpi.com/1424-8220/19/1/21>

**Summary:** This paper introduces a hybrid wearable sensor network system for IoT-connected safety and health monitoring in outdoor workplaces. The system combines a wearable body area network (WBAN) for user data collection with a low-power wide-area network (LPWAN) for Internet connectivity. Wearable sensors measure environmental conditions and vital signs through Safe and Health Nodes, respectively. A local server processes sensor data, displays information, and triggers alerts for emergencies. An IoT cloud server enhances functionalities, including web monitoring and mobile applications, linking the gateway to the Internet for comprehensive safety and health monitoring.

### **5. Internet of things (IoT) applications for elderly care: a reflective review**

Published: 10 April 2020

Link: <https://link.springer.com/article/10.1007/s40520-020-01545-9>

**Summary:** This paper highlights the escalating pressure on healthcare systems due to the growing elderly population and proposes the use of IoT and wearable technology to alleviate this strain. It aims to provide a comprehensive overview of the current applications of these technologies in elderly healthcare, emphasizing the types of data collected and devices utilized. The analysis explores existing areas of IoT/wearable

applications and identifies emerging opportunities in areas like robotic technology. The paper serves as a valuable resource for healthcare solution designers and developers, offering insights into crafting technology-supported healthcare strategies to enhance the quality of life for the elderly.

#### **6. A Survey of Healthcare Internet of Things (HIoT): A Clinical Perspective**

Date of Publication: 09 October 2019

Link: <https://ieeexplore.ieee.org/abstract/document/8863483>

**Summary:** The article discusses how the maturation of Internet of Things (IoT) devices, in conjunction with current sociological trends, is poised to revolutionize healthcare. It envisions a network of body-worn sensors collecting rich health data for personalized and modernized care, leading to improved outcomes and cost reductions. The three key technology areas driving this transformation are sensing (miniaturization and power efficiency), communications (ubiquitous connectivity and standardized protocols), and data analytics and inference (large data availability and computational resources). The article includes a case study to illustrate the impact of these trends and concludes with a discussion of emerging directions, open issues, and challenges in the field.

#### **7. A Comprehensive Survey of the Internet of Things (IoT) and AI-Based Smart Healthcare**

**Summary:** Smart health care is an important aspect of connected living. Health care is one of the basic pillars of human need, and smart health care is projected to produce several billion dollars in revenue in the near future. There are several components of smart health care, including the Internet of Things (IoT), the Internet of Medical Things (IoMT), medical sensors, artificial intelligence (AI), edge computing, cloud computing, and next-generation wireless communication technology. Many papers in the literature deal with smart health care or health care in general. Here, we present a comprehensive survey of IoT- and IoMT-based edge-intelligent smart health care, mainly focusing on journal articles published between 2014 and 2020. We survey this literature by answering several research areas on IoT and IoMT, AI, edge and cloud computing, security, and medical signals fusion. We also address current research challenges and offer some future research directions.

## **8. Wearables and the Internet of Things (IoT), Applications, Opportunities, and Challenges: A Survey.**

**Date of Publication:** 07 April 2020

**Link:** <https://ieeexplore.ieee.org/abstract/document/9058658>

**Summary:** The paper provides a comprehensive survey of recent research in the field of wearable Internet of Things (IoT). It categorizes wearables into four clusters: health, sports and daily activity, tracking and localization, and safety. The study analyses algorithmic differences within each cluster and discusses research challenges and open issues. The survey highlights a gap in the exploration of Cellular IoT (CIoT) in wearables, emphasizing its potential applications and addressing opportunities and challenges associated with implementing CIoT-enabled wearables.

## **9. Development of LIDAR Based Gait Training System with Gait Assessment**

**Published in:** [2020](#)

**Link:** <https://ieeexplore.ieee.org/abstract/document/9158246>

**Summary:** This research introduces a novel gait training system using a wheeled walker equipped with a 2D laser scanner (LIDAR) to overcome limitations of clinical gait training devices. The system concurrently measures gait parameters like stride length and step length. The study compares the prototype with a clinical gait assessment system (Qualisys) and finds that the gait parameters are accurately assessed. The proposed system has the potential to facilitate effective daily gait training for community use.

## **10. Feature selection for Lidar-based gait recognition**

**Published in:** [2015](#)

**Link:** <https://ieeexplore.ieee.org/abstract/document/7347076>

**Summary:** This paper conducts a performance analysis of different descriptors for human gait analysis in Rotating Multi-Beam (RMB) Lidar measurement sequences. The study focuses on realistic outdoor surveillance scenarios with multiple pedestrians, intersecting trajectories, and potential occlusions or background noise. The research adapts five approaches originally designed for optical cameras or Kinect measurements to Lidar scenes. The findings affirm that effective person re-identification is possible using a single Lidar sensor, even when producing sparse point clouds