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### Patent Search

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#### Abstract:

Smart healthcare monitoring systems are proliferating due to the Internet of Things (IoT)-enabled portable medical devices. The IoT and deep learning in the healthcare prevent diseases by evolving healthcare from face-to-face consultation to telemedicine. To protect athletes' life from life-threatening severe conditions and injuries in competitions, real-time monitoring of physiological indicators is critical. In this invention, we present a deep learning-based IoT-enabled real-time health monitoring system. The proposed system uses wearable medical devices to measure vital signs and apply various deep learning algorithms to extract valuable information. For this purpose, we have taken Sanda athletes as our case study. The deep learning algorithms help physicians properly analyze these athletes' conditions and offer the proper medications to them if the doctors are away. The performance of the proposed system is extensively evaluated using a cross-validation test by considering various statistical-based performance measurement metrics. The invention is considered an effective tool that diagnoses dreadful diseases among the athletes, such as brain tumors, heart disease, cancer

#### Complete Specification

Description: Smart healthcare monitoring systems are proliferating due to the Internet of Things (IoT)-enabled portable medical devices. The IoT and deep learning in the healthcare sector prevent diseases by evolving healthcare from face-to-face consultation to telemedicine. To protect athletes' life from life-threatening severe conditions and injuries in training and competitions, real-time monitoring of physiological indicators is critical. In this invention, we present a deep learning-based IoT-enabled real-time health monitoring system. The proposed system uses wearable medical devices to measure vital signs and apply various deep learning algorithms to extract valuable information. For this purpose, we have taken Sanda athletes as our case study. The deep learning algorithms help physicians properly analyze these athletes' conditions and offer the proper medications to them, even if the doctors are away. The performance of the proposed system is extensively evaluated using a cross-validation test by considering various statistical-based performance measurement metrics. The invention is considered an effective tool that diagnoses dreadful diseases among the athletes, such as brain tumors, heart disease, cancer, etc.

, C, C, Claims: 1. A method for monitoring a specific player from among a larger group of players engaged in a sport activity based upon monitoring of physiological parameters of the specific player, the method comprising steps of:  
providing a system having a plurality of reporting units and a signaling device, each reporting unit being associated with a specific player and having an encoder and a sensor, the encoder provides a unique identifier for the specific player;  
utilizing the sensor to monitor the physiological parameter of the specific player and to generate parameter data while that specific player is engaged in the sport activity;  
calculating a parameter result based upon sensor data encoded with the unique identifier, and comparing said result to a predetermined threshold; and  
sending an alert to the signaling device when the parameter result exceeds the threshold for said specific player.

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