A HEALTH MONITORING SYSTEM USING REINFORCEMENT LEARNING BASED INTELLECTUAL AND ENERGY EFFICIENT TRANSMISSION FOR WBAN MODEL

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ABSTRACT

In these days the demand of remote health monitoring rapidly increases due to in involvement of Wireless Body Area Network (WBAN) that is used for health monitoring application in real-time scenario due to its capabilities of sensing and fast communication. It is a type of Wireless Sensor Network (WSN) model that consist of various tiny sensor nodes which are power by batteries and used routing algorithms to send a data packets from one node to other via the base station. But energy efficient and secure data transmission is an important factor for any WBAN-based Remotely Health Monitoring (RHM) system. So, in this research, we proposed a RHM system using reinforcement learning based intellectual and energy efficient transmission for WBAN model. An intellectual and energy efficient transmission in WBAN-based RHM system is based on the routing mechanism to support the network communication and find the best route that consumes minimal power because there is a limited power resource provide to each sensor nodes. The introduced reinforcement learning based intellectual and energy efficient transmission mechanism as a routing protocol diminish the involvement of abnormal nodes between end to end nodes in the network to increase the efficiency. At the last of paper, the comparison of proposed WBAN-based RHM system with existing work in presented in respects of Quality of Service (QoS) like throughput and power consumption and we noticed that the power consumption is reduced by 33.54% as compare to the existing work and the data transmission also becomes more fast and secure by detecting and mitigating the effect of fail nodes from the route in the WBAN model.

KEYWORDS: Remotely Health Monitoring (RHM) system, Wireless Body Area Network (WBAN), Intellectual and Secure Routing, Reinforcement Learning, Quality of Service (QoS)