BATCH NO: 10

PROJECT TITLE: OPTIMIZING THE ASSIGNED ERROR CORRECTION CODES IN A HEALTHCARE MONITORING FRAMEWORK

ABSTRACT:

In contemporary healthcare, the integration of Internet of Things (IoT) technology has revolutionized remote patient monitoring systems, facilitating the timely and efficient transmission of vital health data. A crucial element in ensuring the efficacy of such systems is the proactive management of data transmission delays. Central to this endeavor is the implementation of an advanced error correction algorithm, designed to promptly detect and rectify discrepancies encountered during data transmission. Despite advancements, existing remote patient monitoring systems encounter challenges such as suboptimal performance due to static allocation of error correction codes (ECC), limited real-time monitoring capabilities, and susceptibility to cybersecurity threats. To address these issues, this project aims to develop a dynamic error correction code allocation system for IoT-based healthcare monitoring. And proposed system will dynamically allocate ECC based on factors including sensor battery status, wireless network conditions, and data criticality, optimizing resource utilization and ensuring data integrity. Real-time monitoring mechanisms will continuously assess transmission conditions, triggering ECC allocation adjustments as needed to enhance system resilience and reliability. Through rigorous testing and validation, this dynamic error correction code allocation system will significantly enhance the performance of remote patient monitoring systems, empowering healthcare professionals with proactive interventions and informed decision-making capabilities. By addressing existing limitations and introducing innovative solutions, this project aims to advance IoT-based healthcare monitoring and ultimately improve patient outcomes

Keywords: Error-correction algorithm, Sensor networks, Data transmission, Fluctuating conditions.