A Real Time Patient Monitoring System based on Artificial Neural Fuzzy Inference System (ANFIS)

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Abstract

Over the last few years there has been tremendous growth in the field of healthcare monitoring systems in hospitals and outside of it. Developing wireless health care monitoring devices employing various technologies has become a keen area of interest in India and as well as in other Nations. This proposed work aims to integrate artificial neural intelligence in domain of healthcare monitoring. Wireless body sensor devices have the ability to reach an advance level of human body monitoring utilizing various transmission and data analytics techniques. Implementation of Artificial Neural Fuzzy Inference Systems (ANFIS) would enable the system to work as a smart healthcare system that decides the priority by itself based on the collected psychological parameters from the sensor nodes. Proposed model describes an e-healthcare monitoring system developed for realizing integration of ANFIS in healthcare monitoring systems. The model consists of sensors to collect vital data from patient’s body which is then transmitted by Wi-Fi to a central HUB where fuzzy logic converts the raw data in linguistic variable which is trained in ANFIS to get the status of patient. The developed system provides the reliable, accurate and real-time accessible data of patients continuously and transmits the
vital information using a dedicated communication module in case of emergency.

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Keywords

Patient’s vital signal monitoring; artificial neural fuzzy inference system (ANFIS); wireless transmission; GSM module.