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Deep Forest Based Internet of Medical Things System for Diagnosis of Heart Disease

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ABSTRACT

Due to advancement in internet of medical things, the conventional health-care systems are transformed into smart health-care systems. The medical emergence services can be significantly enhanced by integration of IoMT and data analytic techniques. These technologies also examine the unexplored area of medical services that are still unseen and provide opportunity for investigation. Moreover, the concept of smart cities is not achievable without providing a smart connected healthcare scheme. Hence, the main purpose of this research is to come up with a smart healthcare system based on IoMT, Cloud and Fog computing and intelligent data analytic technique. The major objective of the proposed healthcare system is to develop a diagnostic model capable for earlier treatment of heart disease. The suggested scheme consists of distinct phases such as data acquisition, feature extraction, FogBus based edge/fog computing environment, classification, and evaluation. In data acquisition, different IoMT such as wearables and sensors devices are considered to acquire the data related to heart disease and the various features related to signal and data are extracted. Further, the deep forest

technique is integrated into the proposed system for classification task and effective diagnosis capabilities of heart issues. The performance of the suggested scheme is evaluated through set of well-defined parameters. Comparison with other healthcare model was conducted for the purpose of performance evaluation. It is concluded that the proposed model has a superiority over other all other models in different aspects namely, the sensitivity measure, accuracy measure, and specificity.

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