The challenges in the design of a smart healthcare system, such as increasing system complexity, which lead to higher energy consumption and design costs are discussed in this paper.Based on the use of the model proposed in this study, an IoT–based CE device can be imple mented in the future to predict various pathological conditions of diseases, thereby improving the healthcare systemWe used our model to predict the pathological conditions of cardiovascu lar diseases and compared our results with those obtained using various other mod els.In addition, a reduction in the execution time in comparison with other methods, such as DT, NB, K–NN, and SVM, can be achieved.In this study, we propose the FPGA implementation of a fuzzy clas sifier for IoT–based healthcare systems.To overcome these drawbacks, various new computing methods are being designed.These systems can be used to predict patho logical conditions with improved accuracy.The results reveal that the proposed model yields the best outcome.