



Ministry of Higher Education and Scientific Research, Iraq  
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information technology collage  
Information Networks Department  
Study: morning



نموذج الكشف عن مرض السكري لشبكات  
”إنترنت الأشياء“

## “Diabetes detection model for IoT networks”

A Graduate Project Submitted to the department of Information  
Networks of the College of Information Technology, University of  
Babylon, in Partial Fulfillment of the Requirements for the Bachelor’s  
degree in the Information Networks of Information Technology

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## ***Abstract***

There has been a discernible increase in the prevalence of diabetes in recent years, highlighting the significance of early detection in successfully managing the condition and avoiding complications. A chronic disease called diabetes is characterized by persistently elevated blood sugar levels. This requires consistent monitoring, medication, lifestyle modifications, and adherence to a healthy diet. The system's ability to detect diseases early can help with quick treatment and illness management. The platform makes use of Internet of Things (IoT) technology to provide a simple and quick way to monitor patients' health while reducing difficulties caused by diabetes. This project introduces a machine learning model-based IoT system for diabetes detection. The suggested system combines Internet of Things (IoT) devices for gathering physiological data with a cloud-based platform for processing and analyzing the data. This project proposed the Random Forest algorithm. It was determined through meticulous investigation that hyper parameter modification greatly improved the performance of the aforementioned algorithm, the Random Forest algorithm showing the highest accuracy. The performance of the proposed model is evaluated by using four evaluation metrics i.e., accuracy, recall, and F1-Score. The proposed model outperformed in terms of accuracy (99 %), F1-Score (99%). However, the recall (98%) . With the help of this proposed patient's health monitoring system, doctors will be able to diagnose the presence of the disease earlier.