

# **IOT ICU PATIENT BODY POSITION MONITORING SYSTEM**

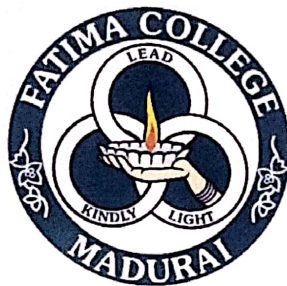
A Project work submitted to Fatima College (Autonomous) affiliated to Madurai Kamaraj

University in partial fulfilment of the requirements for the

Degree of Bachelor of Science in Computer Science

Submitted by

**M.NAGARAMYA(2021B42)**



**DEPARTMENT OF COMPUTER SCIENCE**

**FATIMA COLLEGE(Autonomous)**

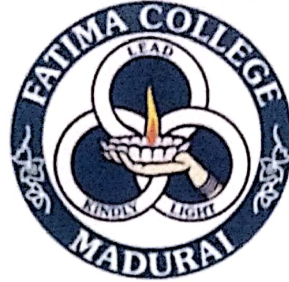
**Re – Accredited with 'A++' Grade by NAAC (IV Cycle)**

**Mary Land, Madurai – 18**

**March – 2024**

FATIMA COLLEGE(AUTONOMOUS),MADURAI – 18

DEPARTMENT OF COMPUTER SCIENCE



**BONAFIDE CERTIFICATE**

This is to certify that this project entitled “IOT ICU BODY POSITION MONITORING SYSTEM” is a bonafide record of the project work done by M.NAGARAMYA(2021B42) in partial fulfillment of the requirement for the award of the degree of BACHELOR OF SCIENCE in COMPUTER SCIENCE.

Submitted for the Viva – Voce Examination held on 25.03.2024

  
INTERNAL EXAMINER

 25/3/24  
EXTERNAL EXAMINER

## DECLARATION

I hereby declare that the project entitled “IOT ICU PATIENT BODY POSITION MONITORING SYSTEM” is a project report of the original work done by me. This project work is submitted to Fatima College (Autonomous), Affiliated to Madurai Kamaraj University) in partial fulfillment of the degree of Bachelor of Science in Computer Science during the academic year 2023-2024.

I declare that this project work or any part thereof has not been submitted for getting any Degree or Diploma from any University or College.

Place: Madurai

Date: 25.03.2024

*M. Nagaramya*

Signature

(M.NAGARAMYA(2021B42))



## CERTIFICATE

Embuzz Technologies Private Limited



29<sup>th</sup> Feb, 2024

To  
The Head of Department,  
Department of Bachelor Of Computer Science,  
Fatima College (Autonomous),  
Madurai.

Dear Sir / Madam,

Sub: Completion for Project Work.

We are pleased to inform you that **Ms. Nagaramya M** (Reg. No: 2021B42), student of final year **Bachelor Of Computer Science** from "**Fatima College (Autonomous), Madurai**" has undergone training and guidance for the project titled "**IoT Patient ICU Body Position Monitoring System**" from Nov 2023 to Feb 2024 on the Technology of Embedded Systems and IoT in our Organization. They completed his project work successfully with good conduct.

Thanking You,



*M. Amarnath Karthic*

Amarnath Karthic M - Director

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## ABSTRACT

Unexpected incidents are common in intensive care Unit. One means of detecting, diagnosing, and treating these events is to make use of physiologic displays that show the patient's vital signs. The present work focuses on problems related to patient position monitoring. Patient monitoring systems are becoming an advanced systems since it works in the sensitive area at intensive care unit(ICU). The patients admitted critically in intensive care units needs high level of attention and the goal towards saving the patient life is higher. Due to the development of internet of things (IoT), Machine learning (ML) and Artificial Intelligence (AI) frameworks patient monitoring systems are rapidly growing in recent days. IoT enabled patient monitoring system collects the data in a smart way and process the data in the cloud where the data can be accessible by the medical practioners in a fraction of seconds. Continuous monitoring is highly demandable for ICU patience.

Semi structured interviews of 26 experienced ICU nurses were employed to identify monitor usability problems. Among their comments, interviewed nurses mentioned that monitors now in use make it difficult to access vital sign trends and do not permit marking of events or interventions ontrend displays. Monitors currently in use in intensive care units (ICUs) provide information in numerical and waveform formats, but most such displays originated in patient monitors developed for use by anaesthesiologists.

The current project helps to Monitoring various parameters of the patient using internet of things. The ICU patient monitoring system based on Internet of things;the real time parameters of patient's position are sent to cloud using Internet connectivity. The present work indicates that patient position monitoring in the ICU could be newest idea of this generation.

The goal is, after the operation, for example on heart, patient will be advised by doctors not to turn any of the side as it will create serious injuries once they turn in any of the direction especially while sleeping. To prevent this, implementing **a hip band with mems sensor is implemented with cloud monitoringand alarm toowhich will indicate the state of patient's position.**

The project aims to improve patient care by providing healthcare providers with accurate and timely information about patient positioning, enabling early intervention and prevention of complications.