PARK COLLEGE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE, Accredited by National Board of Accreditation and NAAC, Affiliated to Anna University)
NH 544, Avinashi Road, Kaniyur, Coimbatore – 641 659.Ph: 0421 2911200, 2910100
*Email :*info@park.ac.in **Web :** www.pcet.ac.in

List of students undertaking project work/field work/internship for academic year 2021-2022

B.E- BIOMEDICAL ENGINEERING

SL.NO	REG.NO	YEAR	PROJECT WORK	MINI PROJECT	INTENSHIP	FIELD WORK
1.	712218121004	IV	✓	-	-	-
2.	712218121009	IV	✓	-	-	-
3.	712218121037	IV	✓	-	-	-
4.	712218121041	IV	✓	-	-	-
5.	712218121019	IV	✓	-	-	-
6.	712218121050	IV	✓	-	-	-
7.	712218121052	IV	✓	-	-	-
8.	712218121054	IV	✓	-	-	-
9.	712218121006	IV	✓	-	-	-
10.	712218121029	IV	✓	-	-	-
11.	712218121033	IV	✓	-	-	-
12.	712218121056	IV	✓	-	-	-
13.	712218121008	IV	✓	-	-	-
14.	712218121011	IV	✓	-	-	-
15.	712218121030	IV	✓	-	-	-
16.	712218121038	IV	✓	-	-	-
17.	712218121012	IV	✓	-	-	-
18.	712218121039	IV	✓	-	-	-
19.	712218121043	IV	✓	-	-	-
20.	712218121055	IV	✓	-	-	-

Park College of Engineering & Technology Kaniyur Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE, Accredited by National Board of Accreditation and NAAC, Affiliated to Anna University)
NH 544, Avinashi Road, Kaniyur, Coimbatore – 641 659.Ph: 0421 2911200, 2910100
Email :info@park.ac.in Web : www.pcet.ac.in

21.	712218121024	IV	✓	-	-	-
22.	712218121040	IV	✓	-	-	-
23.	712218121047	IV	✓	-	-	-
24.	712218121057	IV	✓	-	-	-
25.	712218121001	IV	✓	-	-	-
26.	712218121005	IV	✓	-	-	-
27.	712218121010	IV	✓	-	-	-
28.	712218121042	IV	✓	-	-	-
29.	712218121002	IV	✓	-	-	-
30.	712218121020	IV	✓	-	-	-
31.	712218121022	IV	✓	-	-	-
32.	712218121023	IV	✓	-	-	-
33.	712218121018	IV	✓	-	-	-
34.	712218121026	IV	✓	-	-	-
35.	712218121028	IV	✓	-	-	-
36.	712218121046	IV	✓	-	-	-
37.	712218121003	IV	✓	-	-	-
38.	712218121016	IV	✓	-	-	-
39.	712218121021	IV	✓	-	-	-
40.	712218121032	IV	✓	-	-	-
41.	712218121013	IV	✓	-	-	-
42.	712218121027	IV	✓	-	-	-
43.	712218121031	IV	✓	-	-	-
44.	712218121048	IV	✓	-	-	-
45.	712218121007	IV	✓	-	-	-
46.	712218121045	IV	✓	-	-	-
47.	712218121049	IV	✓	-	-	-
48.	712218121053	IV	✓	-	-	-

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

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NH 544, Avinashi Road, Kaniyur, Coimbatore – 641 659.Ph: 0421 2911200, 2910100
Email :info@park.ac.in Web : www.pcet.ac.in

Batch No.	Register Number	Student Name	Guide Name	Project Title & In-house/Industry Project
1.	712218121004	ANANDH.S	ALVIN JOHNNIE DORAIRAJ	AUTOMATIC OXYGEN DELIVERY SYSTEM ON DEMAND
	712218121009	GAYATHRI.M		
	712218121037	PRAVEEN.V		
	712218121041	RANJITH.K		
2.	712218121019	JEYASURIYA.J	J.GOWRI	A VITAL SIGNS MONITORING SYSTEM USING LI-FI
	712218121050	STANISH KISHORE.P		
	712218121052	SUREKAR.R		
	712218121054	UMAMAHESHWARI.V		
3.	712218121006	ARSATH ALI.M	DR.V. INDU NAIR	DYNAMIC CPAP (CONTINUOUS POSSITIVE AIRWAY PRESSURE)
	712218121029	MONIKA.P		
	712218121033	NIZHANTHINI.A		
	712218121056	VIDHYAVASHINI.B		
4.	712218121008	DIVYA	ALVIN JOHNNIE DORAIRAJ	FOOT ULCER PREVENTION
	712218121011	GOHUL.P		
	712218121030	NIRMAL KUMAR.S		
	712218121038	PREETHA.V		
5.	712218121012	GOKUL RAJ.S	ALVIN JOHNNIE DORAIRAJ	KNEE IMPLANT MONITORING USING IOT
	712218121039	PRIYADHASHINI.K		
	712218121043	SALEHA BEE.N		
	712218121055	VARSHA.S		
6.	712218121024	MADHANKUMAR.V	J.GOWRI	IOT PARALYSIS HEALTH CARE
	712218121040	RAJESHWARI.K		
	712218121047	SOFIA.P		
	712218121057	VIJAYKUMAR.P		

College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D
PRINCIPAL
Park College of Engineering & Technolo
Avinashi Road,
Kaniyur, Coimbatore - 641659.

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE, Accredited by National Board of Accreditation and NAAC, Affiliated to Anna University)
NH 544, Avinashi Road, Kaniyur, Coimbatore – 641 659.Ph: 0421 2911200, 2910100
Email :info@park.ac.in Web : www.pcet.ac.in

7.	712218121001	ABINAYAYASRI.S	DR.V. INDU NAIR	BIOMECHANIC FORCE PLATFORM
	712218121005	ARAVIND.M		
	712218121010	GNANASOUNDHARI.K		
	712218121042	RASITHYA YASMIN.S		
8.	712218121002	AMEER SUHAIL.N	DR.V. INDU NAIR	3D PRINTED BIONIC UPPER PROSTHETIC USING EMG AND FSR SENSOR
	712218121020	KARTHIKEYAN.K		
	712218121022	KAVIYA.P		
	712218121023	LEGASHRI.M		
9.	712218121018	JEBAANGEL.S	ALVIN JOHNNIE DORAIRAJ	DETECTION OF CHRONIC VENOUS DISEASES USING DECISION TREE ALGORITHM
	712218121026	MADHUSUDHANAN.M		
	712218121028	MARIA GOLDA.G		
	712218121046	SELVAM R.K		
10.	712218121003	ANANDHALAKSHMI.S	J.GOWRI	RESPIRATION TEMPERATURE CONTROLLING SYSTEM IN HUMIDIFIER
	712218121016	ILLAKIYA MEIYAR.A		
	712218121021	KARUNAKARAN.K.M		
	712218121032	NIVETHA.K		
11.	712218121013	GOWTHAMI.M	J.GOWRI	PATIENT STREES MONITORING SYSTEM USING GSM
	712218121027	MANIMEKALAI.J		
	712218121031	NITHEESH KUMAR.K		
	712218121048	SOWMIYA.R		
12.	712218121007	ARTHI.A	DR.V. INDU NAIR	IOT BASED AUTISM PATIENT TRACKING SYSTEM
	712218121045	SATHISH.A		
	712218121049	SRINIVASA PERUMAL.R		
	712218121053	THOMAS PAUL		

Dr.D.LAKSHMANAN,ME., Ph
PRINCIPAL
Park College of Engineering & Technc
Avinashi Road,
Kaniyur, Coimbatore - 641659.

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE, Accredited by National Board of Accreditation and NAAC, Affiliated to Anna University)
NH 544, Avinashi Road, Kaniyur, Coimbatore – 641 659. Ph: 0421 2911200, 2910100
Email : info@park.ac.in Web : www.pcet.ac.in

AUTOMATIC OXYGEN DELIVERY SYSTEM ON DEMAND

BM8811-PROJECT

PROJECT REPORT

submitted by

REGISTER NO	NAME
712218121004	ANANDH.S
712218121009	GAYATHRI.M
712218121037	PRAVEEN.V
712218121041	RANJITH. K

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

COIMBATORE-641659 ANNA UNIVERSITY: CHENNAI 600025

JUNE-2022

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN, ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

BONAFIDE CERTIFICATE

Certified that this project report "AUTOMATIC OXYGEN DELIVERY SYSTEM ON DEMAND" is the bonafide work of ANANDH.S (712218121004),GAYATHRI.M(712218121009),PRAVEEN.V(712218121037) and RANJITH.K (712218121041) who carried out the project work under my supervision.

SIGNATURE

Dr. V. INDU NAIR M.E., PhD.

(HEAD OF THE DEPARTMENT)
Park College of Engineering and Technology,
Kaniyur, Coimbatore-641659

SIGNATURE

Mr.ALVIN JOHNNIE DORAIRAJ
M.Tech.(PhD.)

(SUPERVISOR)
Park College of Engineering and Technology,
Kaniyur, Coimbatore -641659

Submitted for the viva voice held on 21-02-2022

INTERNAL EXAMINER

EXTERNAL EXAMINER

Dr.D.LAKSHMANAN,ME., Ph.D
PRINCIPAL
Park College of Engineering & Technolo
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

The Oxygen saturation is the fraction of oxygen-saturated hemoglobin relative to total hemoglobin in the blood. The human body requires and regulates a very precise and specific balance of oxygen in the blood. Normal arterial blood oxygen saturation levels in humans are 95–100 percent. If the level is below 90 percent, it is considered low and called hypoxemia. In this condition the patient have to be supplied with external oxygen supply. In all the hospitals they will give oxygen externally but they fail to stop the supply once the SPO_2 level becomes normal . So the oxygen is wasted . As a step of reducing it we had made this prototype model with the help of arduino UNO it acts as a mediator and it interact with LabVIEW software and produce the expected output which turn on the oxygen cylinder automatically with the help of solenoid valve and relay. In addition to this a sound sensor detects the cough and when the intensity of cough is high a buzzer automatically indicates the attender to provide patient with nebulizer.

Park College of Engineering & Technology
Coimbatore
641659.
Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

STEP 3:customize the front panel

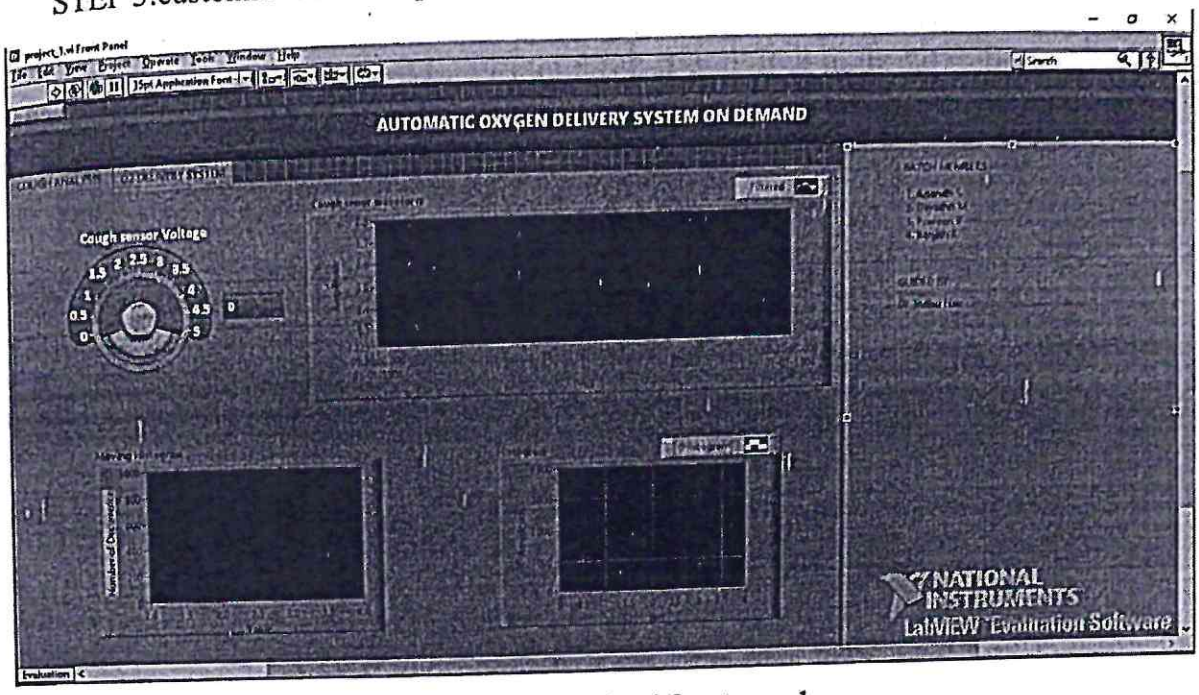

Fig.3.13.customized front panel

CHAPTER 4

RESULT AND CONCLUSION

4.1 INTRODUCTION :

The aim of the project was to create automatic oxygen delivery system that has to be controlled through an software. We hope that the project has been completed with success with the utmost satisfaction. The project offers smart plan on developing a full-fledged application satisfying the user needs. It permits the user to use with none inconvenience. The system created met its objectives, by being straightforward to use, implement and secure. All modules within the system are tested with valid information and invalid information and everything work with success. However, there is still lots of scope for future improvement and add ons in practicality.

Park College of Engineering & Technology
Coimbatore
641659.
Kaniyur
Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

A VITAL SIGNS MONITORING SYSTEM USING LI-FI

A PROJECT REPORT

Submitted by

JEYASURIYA.J	(712218121019)
STANISH KISHORE.P	(712218121050)
SUREKA.R	(712218121052)
UMAMAHESHWARI.V	(712218121054)

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

in

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

KANIYUR,COIMBATORE.

ANNA UNIVERSITY :: CHENNAI 600

JUNE 2022

Park College of Engineering & Technology Coimbatore 641659. Kaniyur

Dr.D.LAKSHMANAN,ME., PH
PRINCIPAL
Park College of Engineering & Techn
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ANNA UNIVERSITY :: CHENNAI 600025

BONAFIDE CERTIFICATE

Certified that this project report **"A VITAL SIGNS MONITORING SYSTEM USING LI-FI"** is the bonafied work of **"JEYASURIYA.J, STANISH KISHORE.P,SUREKA.R,UMAMAHESHWARI.V"** who carried out the project work under my supervision.

SIGNATURE
Dr.V.INDU NAIR. Ph.D.,
PROFESSOR,

HEAD OF THE DEPARTMENT,
Department of Biomedical Engineering,
Park College of Engineering and Technology,
Coimbatore -641659.

SIGNATURE
J.GOWRI.M.E
PROFESSOR,

SUPERVISOR,
Department of Biomedical Engineering,
Park College of Engineering and Technology,
Coimbatore -641659.

Submitted for the University Project viva-voice examination held on 21.06.2022

Internal Examiner

External Examiner

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN, ME., P
PRINCIPAL
Park College of Engineering & Techn
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

Medical technology is a broad field where innovation plays a crucial role in sustaining health. In this scenario,Li-Fi finds the place wherever Wi-Fi is applicable with additional features of high speed data network. To improve health services need health monitoring system using Li-Fi. LiFi is a wireless optical networking technology that uses light-emitting diodes (LEDs) for data transmission. Generally in hospitals, nurses are taking care of patients. But they may not be available for taking care of the patients 24x7. So, sometimes in the absence of a caretaker, there might be possibilities for the patient's health may become critical. So, under these critical conditions, we have proposed an Automatic Wireless Li-Fi based advanced Health Monitoring System that continuously measures the intensive parameter of the patient's health using different sensors and if any abnormal condition occurs, it will indicate it to the concerned person through a notification. This system is beneficial to the patient and society where the implementation of such system will save hospital bill, waiting time and reduce traffics in the hospitals. This study purpose is too easier for medical personnel to monitor the patients health condition in real time, reduce the burden on medical personnel and reduce the occurrence of errors in data collection process.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technolog
Avinashi Road,
Kaniyur, Coimbatore - 641659.

CHAPTER 5

RESULT AND CONCLUSION

5.1 INTRODUCTION

In this project, we have presented a real-time health monitoring system consisting of sensors(finger heartbeat, body temperature, stress and glucose trips level) using Li-Fi.

The patient datas are collected from the above sensors and sampled digitally using ADC and processed by the Arduino UNO to be displayed on the LCD as normal range. Then the data transmitted as light through the Li-Fi transmitter and received by the Li-Fi receiver through the solar panel. Then the output displayed as a notification on LCD.

5.2 RESULT OF THE PROJECT

All the sensors data will be displayed on the LCD connected with the transmitted side.

Data will be shared from transmitter to receiver through visible light and the abnormalities of transmitter part will be displayed on the receiver unit and also it alerts the caretaker through buzzer.

Park College of Engineering & Technology
Coimbatore
641659.
Kaniyur
Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

DYNAMIC CPAP (CONTINUOUS POSSITIVE AIRWAY PRESSURE)

A PROJECT REPORT

Submitted by

ARSATH ALI.M(712218121006)

MONIKA.P (712218121029)

NIZHANTHINI.A (712218121033)

VIDHYAVASHINI.B (712218121056)

In partial fulfillment for the award of the degree of

BACHALOR OF ENGINEERING

IN

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

ANNA UNIVERSITY: CHENNAI 600 025

JUNE & 2022

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ANNA UNIVERSITY : 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"DYNAMIC CPAP (CONTINUOUS POSSITVE AIRWAY PRESSURE)"** is the bonafide work of **"ARSATH ALI.M, MONIKA.P, NIZHANTHINI.A, VIDHYAVASHINI.B"** who carried out the project work under my supervision.

20/06/22

SIGNATURE
DR.V. INDU NAIR
HEAD OF THE DEPARTMENT
PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

20/06/22

SIGNATURE
DR.V. INDU NAIR
SUPERVISOR
PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

Submitted for project viva-voce examination held on 21/06/2022

21/06/22

INTERNAL EXAMINER

EXTERNAL EXAMINER

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

Continuous Positive Airway Pressure (CPAP) is one of the primary treatments for sleep apnea. In a conventional CPAP, the device produces a constant air pressure to maintain the opening of the respiratory tract. The common problem found in the conventional CPAP is discomfort due to long term air pressure during sleep. Further, in subjects who undergo training to strengthen upper airways muscles, the application of high air pressure during non-apnea period may reduce the muscular strength. In this work, we propose to develop an on-demand CPAP controller that follows the normal respiratory pressure during non-apnea event and produce a pre-set positive air pressure during the sleep apnea event. Not only improve the comfortability of the subjects, our method also useful for patients who plan to discontinue using CPAP in the future. Our proposed model was developed using LabView software. We simulated breathing signal to represent normal breathing and apnea condition. And we also made an hardware output and made as an protype. We used a pressure sensor for the air flowing during the disorder. Then a proportional and integral control system was developed for regulating the air pressure. The total accuracy of the method was 100% in detection of sleep apnea events. Our method can be developed into a low-cost device for sleep apnea treatment.

Keywords—sleep apnea, on-demand, CPAP, sensor

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

4-RESULT AND CONCLUSION

4.1. RESULT

we developed on-demand CPAP (OCPAP) controller that intended for those who follow training to strengthen upper airway muscles. The training is an alternative solution for sleep apnea patients instead of surgery or long-term CPAP treatment. The proposed method may help the patient to stop their dependence to CPAP. The results show that our proposed method has a very high accuracy in detecting sleep apnea events. The performance indicator such as rise time, settling time as well as overshoot comply with the required standard. The system can be developed further as low-cost system to address sleep apnea problem

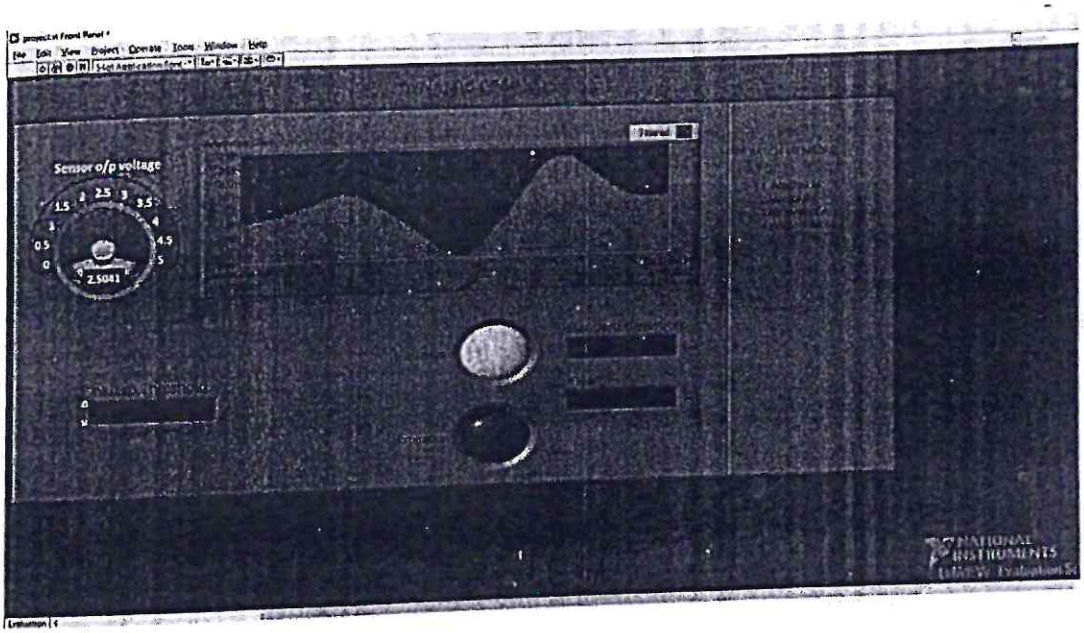

Fig 4.1. Result of LABVIEW Software

4.2CONCLUSION

Thus, here we used both the platforms one is for the demonstration and for the smooth working of the system.

Park College of Engineering & Technology
Coimbatore
641659.
Kaniyur
Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

FOOT ULCER PREVENTION

A PROJECT REPORT

Submitted by

DIVYA .A	**(712218121008)**
GOHUL. P	**(712218121011)**
NIRMAL KUMAR .S	**(712218121030)**
PREETHA .V	**(712218121038)**

in partial fulfilment for the award of the degreeof

BACHELOR OF ENGINEERING

IN

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

KANIYUR, COIMBATORE

ANNA UNIVERSITY: CHENNAI 600 025

JUNE 2022

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ANNA UNIVERSITY: CHENNI 600 025

BONAFIDE CERTIFICATE

Certified that this project "**FOOT ULCER PREVENCTION** "is the bonafide work of "**DIVYA.A (712218121008), GOHUL.P (712218121011), NIRMAL KUMAR.S (712218121030), PREETHA.V (712218121038)**" who carried out the project work under my supervision.

SIGNATURE

Dr. V. INDU NAIR Ph.D

HEAD OF THE DEPARTMANT

Professor

Department of Biomedical Engineering

Park College of Engineering and Technology

Kaniyur, Coimbator – 641 657

SIGNATURE

Asst.Prof.D.ALWIN JOHNNIE

M.Tech,Ph.D.,

SUPERVISOR

Assistant Professor

Department of Biomedical Engineering

Park College of Engineering and Technology

Kaniyur, Coimbator – 641 657

Submitted for the university project VIVA-VOCE examination held on 21 - 06 - 2022

Internal Examiner

External Examiner

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

The diabetic foot syndrome is defined by the presence of ulcers, infections, and/ or gangrene associated to the diabetic neuropathy, and different levels of peripheral vascular disease, as a result of the complex interaction of several maintained hyperglycemic induced factors. There are several problems with current uses for treating diabetic foot ulcers. First, patients must go to their clinic on a daily basis to have their wounds checked by their physicians. Second, a clinicians wound analyses process is based on visual examination. Technology employing image analysis techniques is a probable solution to both these problems. The diabetic foot complication constitutes a tremendous challenge for patients, caregivers, and the healthcare system. Studies show up to 25% of diabetic individuals will develop a foot ulcer during their lifetime and many of these patients eventually must undergo amputation as a result of infection due to untreated foot ulcer. With current technology, in-shoe monitoring system can be implemented to continuously monitor at-risk ulceration sites based on known indicators such as peak pressure. The important parameters in designing a pressure sensing insole include the number, location and size of sensors. In this project we propose morphological operations and K-means clustering technique to segment foot ulcer. And a smart slipper is proposed to prevent foot ulcer.

Park College of Engineering & Technology
Coimbatore 641659.
Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

CHAPTER 4
RESULTS AND CONCLUSION

4.1 INTRODUCTION

With this work, stages necessary for foot ulcer identification using image processing are scrutinized. Gabor filter is used for the segmentation purpose as it provides optimal joint localization in both frequency and special domain. The report analyses the global diabetic foot ulcers treatment market in terms of treatment type, grade, type of ulcer, end user, and region. Key segments under each criteria have been studied at length. The entire report comprises an exhaustive collection of graphs and tables that are appropriately interspersed in the entire compilation. Pictorial representation of actual and projected values of key segments is visually appealing to readers. This also allows comparison of the market shares of key segments in the past and at the end of the forecast period.

4.2 RESULT OF THE PROJECT

The work involved in this paper mainly focuses on supporting software for the hardware device to capture and analyze the data for the predictions of foot ulcer The prediction system provides the result which is helpful for doctors and patients to overcome the health problems related to diabetic foot ulcer. The principal object of the invention is to save time consuming process of check-up during visits to the hospitals.

Park College of Engineering & Technology
Coimbatore
641659.
Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

KNEE IMPLANT MONITORING USING IOT

A PROJECT REPORT

Submitted by

GOKUL RAJ. S	712218121012
PRIYADHARSHINI. K	712218121039
SALEHA BEE. N	712218121043
VARSHA. S	712218121055

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

ANNA UNIVERSITY::CHENNAI 600 025

JUNE 2022

Park College of Engineering & Technology Coimbatore 641659. Kaniyur

Dr.D.LAKSHMANAN, ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ANNA UNIVERSITY::CHENNAI 600025

BONAFIDE CERTIFICATE

Certified that this project report **"KNEE IMPLANT MONITORING USING IOT"** is the bonafide work of **"GOKUL RAJ S, PRIYADHARSHINI K, SALEHA BEE N & VARSHA S"** who carried out the project work under my supervision.

20/06/22

SIGNATURE

Dr.V.INDU NAIR

HEAD OF THE DEPARTMENT

Department of Biomedical Engineering,

Park College of Engineering and Technology,

Coimbatore-641659

20/6/22

SIGNATURE

Dr.D.ALWIN JOHNNIE M.Tech.,PhD.

SUPERVISOR

Department of Biomedical Engineering,

Park College of Engineering and Technology,

Coimbatore-641659

Submitted for Project viva-voice examination held on 21.06.2022

20/06/22

INTERNAL EXAMINER

EXTERNAL EXAMINER

Park College of Engineering & Technology Coimbatore 641659. Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

Accurate monitoring of joint kinematics in individuals with neuromuscular and musculoskeletal disorders within ambulatory settings could provide important information about changes in disease status and the effectiveness of rehabilitation programs and/or pharmacological treatments. This paper introduces a reliable, power efficient, and low-cost wearable system designed for the long-term monitoring of joint kinematics in ambulatory settings. Methods: Seventeen healthy subjects wore a retractable string sensor, fixed to two anchor points on the opposing segments of the knee joint, while walking at three different self-selected speeds. Joint angles were estimated from calibrated sensor values and their derivatives in a leave-one-subject-out cross validation manner using a random forest algorithm. The outlier was likely a result of sensor miscalibration. The proposed wearable device can accurately estimate knee flexion/extension angles during locomotion at various walking speeds. Significance: We believe that our novel wearable technology has great potential to enable joint kinematic monitoring in ambulatory settings and thus provide clinicians with an opportunity to closely monitor joint recovery, develop optimal, personalized rehabilitation programs, and ultimately maximize therapeutic outcomes.

Dr.D.LAKSHMANAN, ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

CHAPTER 5

RESULTS AND CONCLUSION

5.1 RESULT

This Project successfully constructed a real-time monitoring system of motion for knee extensor muscle training. During 25 repetitions of knee extensor muscle training, the six muscles involved could be divided into three levels according to their corresponding changes in skin stretch and the resistance measured by the system's sensors. The flexible sensors in the proposed system not only satisfied the standard for 24 repetitions of knee extensor muscle training, but also exhibited excellent reproducibility for 40 repetitions. The methods employed in this study confirmed the correlations between knee bending angle, skin stretch, and change in resistance. Moreover, the system developed in this study facilitates real-time measurement and can evaluate angle, angular velocity, and dynamic exercise or static isometric exercise of knee motion during training process, simultaneously. Furthermore, the flexible sensors in this study can be seamlessly fitted onto curved skin surfaces.

The system developed by this study has three advantages:

1) Determine angle of knee bending motion which has reached angles during training;

2) Determine angular velocity of knee motion and can prompt the user to correct their improper execution (i.e., too fast or too slow) through feedback on the system screen; and

3) The real-time change in resistance and its relationship with time and knee angle determine whether the user is currently performing dynamic concentric or eccentric exercise or static isometric exercise.

College of Engineering & Technology Coimbatore 641659.
Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

IOT PARALYSIS HEALTHCARE

BM8811 – PROJECT

A PROJECT REPORT

Submitted by

MADHANKUMAR.V	**(712218121024)**
RAJESWARI.K	**(712218121040)**
SOFIA.P	**(712218121047)**
VIJAY KUMAR.P	**(712218121057)**

in partial fulfillment of the requirements for the award of the degree

of

BACHELOR OF ENGINEERING

IN

BIO MEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

COIMBATORE, TAMIL NADU

ANNA UNIVERSITY: CHENNAI 600 025

JUNE – 2022

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN, ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

BONAFIDE CERTIFICATE

Certified that this project report **"IOT PARALYSIS HEALTHCARE"** is the bonafide work of **"MADHANKUMAR V(712218121024), RAJESWARI K(712218121040), SOFIA P(712218121047) AND VIJAY KUMAR P(712218121057)"** that carried out the project work under my supervision.

SIGNATURE

DR.V.INDU NAIR M.E..,PhD

(HEAD OF THE DEPARTMENT)

Department of Biomedical Engineering

Park College of Engineering and Technology

Kaniyur, Coimbatore-641659

SIGNATURE

Prof.J.GOWRI M.E..

(SUPERVISOR)

Department of Biomedical Engineering

Park College of Engineering and Technology

Kaniyur, Coimbatore-641659

Submitted for the viva voce held on 21.06.2022

INTERNAL EXAMINER

EXTERNAL EXAMINER

Park College of Engineering & Technology Coimbatore 641659. Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

We all know that the paralysis condition is a loss of muscle function in the body parts. It can affect any part of your body at any time and then probably you may won't feel pain in the affected area. Technical and Therapeutic innovations are there to improve the quality of life. Our goal is to develop a device which should be easy to use and should be affordable which consists of basic health care monitoring system with nursing care. Our proposed system works by reading the tilt direction of the user part. This device needs to be mounted on user finger of hand. The user now just needs to tilt the device in a particular angle to convey a message. Blood Pressure, Temperature, Heart Rate will be measured and displayed over Smart Phone. Emergency alert can also be viewed in the smart phone by using IOT Software. Since Blood Pressure is an important parameter for Stroke by Continous Monitoring Doctors can provide immediate first aid to paralysis patients. We know that these people can't able to convey their messages or needs. It also buzzers when it receives a risk message. In this way our project truly automates caretaking ability of the patient which ensures periodically to overcome this, we come up with the system that helps these patients to display messages with Emergency Alert.

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

BIOMECHANIC FORCE PLATFORM

A PROJECT REPORT

Submitted by

ABINAYASRI S	(712218121001)
ARAVIND M	(712218121005)
GNANASOUNDHARI K	(712218121010)
RASITHA YASMIN S	(712218121042)

In partial fulfillment for the award

of the degree of

BACHELOR OF ENGINEERING

in

BIOMEDICALENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

ANNA UNIVERSITY: CHENNAI 600025

JUNE–2021

ANNA UNIVERSITY : 600 025

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technolog
Avinashi Road,
Kaniyur, Coimbatore - 641659.

BONAFIDE CERTIFICATE

Certified that this project report "**BIOMECHANIC FORCE PLATFORM**" is the bonafide work of "**ABINAYASRI S, ARAVIND M, GNANASOUNDHARI K, RASITHA YASMIN S**" who carried out the project work under my supervision.

20/06/22

SIGNATURE

Dr. INDU NAIR V
HEAD OF THE DEPARTMENT
PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

20/06/22

SIGNATURE

Dr. INDU NAIR V
SUPERVISOR
PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

Submitted for project viva-voice examination held on 21/06/2022

21/06/22

INTERNAL EXAMINER

EXTERNAL EXAMINER

Park College of Engineering & Technology * Kaniyur * Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

Force platforms are measuring instruments that measures the ground reaction forces generated by a body standing on or moving across them, to quantify balance, gait and other parameters of biomechanics. Force plates are mechanical sensing systems designed to measure the ground reaction forces and moments involved in human movements. A force plate relies on the use of load cells to determine forces. The load cells may contain piezoelectric elements, strain gauges, or beam load cells. As force is applied to the plate, the sensors distort thereby causing measurable voltage changes that are proportional to the applied force. The output signal produced by the load cell is in range of millivolt. The HX711 amplifier sensor includes a HX711 chip with analog-to-digital conversion capability in 24-bit accuracy. The HX711 module amplifies the low-voltage output of the load cell and sends it to the Arduino so that the Arduino eventually calculate weight from this data. Using the python 2.7 we can able to display the results in the monitor. This is used for the athletes to examine that they are either fit or unfit. They are calculated by counter jump movements and squat jump movements. We use CMJ height divided by SJ height to get an eccentric utilization ratio. We look for this to be between 1.1-1.20, or in other words a 10-20% higher CMJ height than SJ height.

Keywords: HX711, biomechanics, force platform, load cell.

Park College of Engineering & Technology Coimbatore 641659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

CHAPTER 4

RESULT AND CONCLUSION

4.1 RESULT

The graphical representation and the numerical values of the person while they do counter movement jump and the squat jump is the result. The ratio of the squat jump height to CMJ height tells us how much jump height the athlete gains from the countermovement in the jump. We use CMJ height divided by SJ height to get an eccentric utilization ratio. We look for this to be between 1.1-1.20, or in other words a 10-20% higher CMJ height than SJ height.

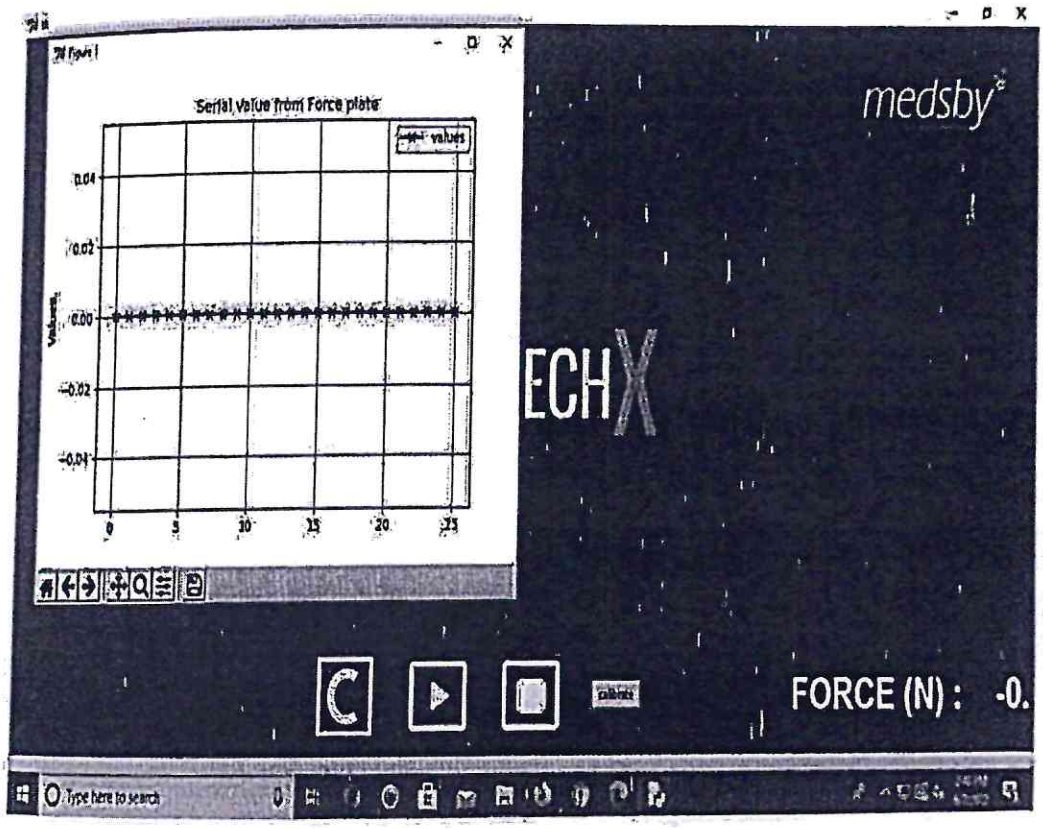

Fig 4.1 Before the jump

Park College of Engineering & Technology Coimbatore 641659.
Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

3D PRINTED BIONIC UPPER PROSTHETIC USING EMG AND FSR SENSOR

A PROJECT REPORT

Submitted by

AMEER SUHAIL.N	(712218121002)
KARTHIKEYAN.K	(712218121020)
KAVYA.P	(712218121022)
LEGASHRI.M	(712218121023)

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

KANIYUR,COIMBATORE

ANNA UNIVERSITY: CHENNAI 600025

JUNE–2022

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ANNA UNIVERSITY : 600 025

BONAFIDE CERTIFICATE

Certified that this project report "3D PRINTED BIONIC UPPER PROSTHETIC USING FSR AND EMG SENSOR" is the bonafide work of "AMEER SUHAIL.N, KARTHIKEYAN.K, KAVYA.P, LEGASHRI.M " who carried out the project work under my supervision.

SIGNATURE	SIGNATURE
DR.V.INDU NAIR	DR.V. INDU NAIR
HEAD OF THE DEPARTMENT	SUPERVISOR
PARK COLLEGE OF ENGINEERING	PARK COLLEGE OF ENGINEERING
AND TECHNOLOGY	AND TECHNOLOGY

Submitted for project viva-voce examination held on 21-06-2022

INTERNAL EXAMINER

EXTERNAL EXAMINER

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

Our project mainly focuses on building a Prosthetic bionic hand with the use of 3D printing technology. This is a low cost solution to replace the missing hand in the human body. These hands represent conventional or myoelectric prostheses. This Bionic arm is controlled based on EMG electrical activity of Muscle. Patients who have lost limbs can still "feel" its presence. Due to this whenever the person wants to realise an action using the lost limb (He feels,he still has), Electric impulses are passed on to the nerve endings from the brain. Therefore, myoelectric signals are still being produced which can be tapped into using the EMG sensor. To feel the sense of touch FSR - Force Sensitive Resistor is used to transmit the signals when the sensor is touched which causes the vibration motor to vibrate which gives the user the feel of touch. Force Sensitive Resistor manages to send signals from the touch to the vibration motor so the motor vibrates which provides the user the feel and sense of touching the object or particle.

Keywords: 3D Printing, 3D printer, FSR, Bionic, Prosthetics

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

CHAPTER 04

RESULTS AND CONCLUSION

4.1 INTRODUCTION

When an amputated person uses this bionic upper prosthetic, it provides an artificial hand usage. This hand allows the user to hold objects, pick up and drop the objects. The usage of FSR provides the necessary force to hold a specific object which is controlled by the Arduino Uno board, which has an ATmega328p microcontroller. FSR also provides input to the vibration motor so that it vibrates when the user touches the object. This provides the sense of touch because of the vibration produced. Overall our 3D printed bionic arm is used as an artificial arm for amputees with an added advantage of force sensing and the feel of touch.

4.2 RESULTS OF BIONIC ARM

4.2.1 3D PRINTED ARM

The material used for printing the arm PLA (Poly Lactic Acid).The model files have been taken from the open source platform called "Inmoov".

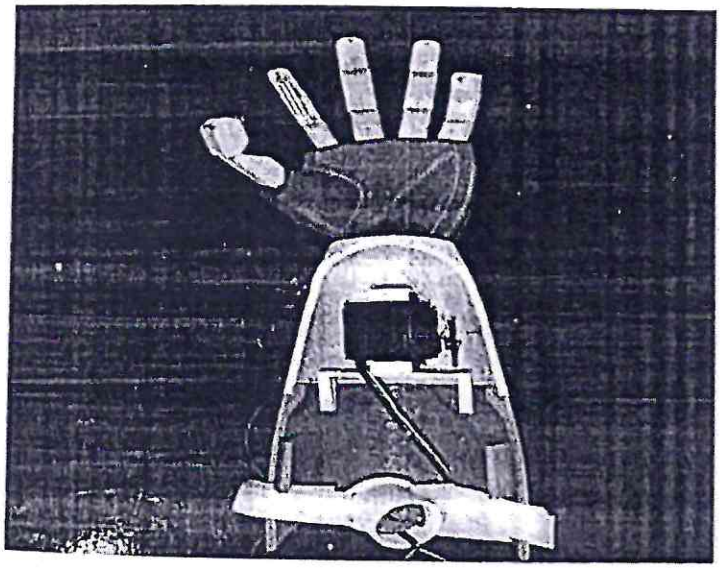

Fig 4.1 3D Printed Arm

Park College of Engineering & Technology Coimbatore 641659. Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

DETECTION OF CHRONIC VENOUS DISEASES USING DECISION TREE ALGORITHM

BMSS11 – PROJECT

A PROJECT REPORT

Submitted by

(712218121018)	JEBAANGEL S
(712218121026)	MADHUSUDHANAN M
(712218121028)	MARIA GOLDA G
(712218121046)	SELVAM R K

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY,

COIMBATORE – 641 659

ANNA UNIVERSITY:: CHENNAI 600 025

JUNE 2022

Park College of Engineering & Technology Coimbatore 641 659.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

BONAFIDE CERTIFICATE

Certified that this project report **"DETECTION OF CHRONIC VENOUS DISEASES USING DECISION TREE ALGORITHM"** is the bonafide work of **"JEBAANGEL S (712218121018), MADHUSUDHANAN M (712218121026), MARIA GOLDA G (712218121028) AND SELVAM R K (712218121046)** who carried out the project work under my supervision.

SIGNATURE

DR. V. INDU NAIR M.E., PhD

(HEAD OF THE DEPARTMENT)

Department of Biomedical Engineering

Park College of Engineering and Technology

Kaniyur, Coimbatore - 641659

SIGNATURE

Mr.D. ALWIN JOHNNIE DORAIRAJ
M.Tech., PhD
(SUPERVISOR)

Department of Biomedical Engineering

Park College of Engineering and Technology

Kaniyur, Coimbatore - 641659

Submitted for the viva voce held on 21.06.2022

INTERNAL EXAMINER

EXTERNAL EXAMINER

Dr.D.LAKSHMANAN, ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

The doctor determines whether there are lesions in the human body through the diagnosis of medical images, and classifies and identifies the lesions. Therefore, the automatic classification and recognition of medical images has received extensive attention. Since the inflammatory phenomenon of vascular endothelial cells is closely related to the chronic venous diseases of the lower extremities, in order to realize the automatic classification and recognition of chronic venous diseases of the lower extremities, we proposed chronic venous diseases detection based on decision tree algorithm in machine learning concept. The chronic venous diseases are the lesion veins that are swollen and twisted veins that usually occur in lower limbs. This disease occurs due to damaged or weak valves of the veins that lead to improper flow of blood against gravity. Based on the values from the sensors, the dataset is predefined. The predefined dataset acts like threshold value. The positional data of a person is analyzed using various sensors like force sensor, SpO_2 sensor, accelerometer and tilt sensor. The data to be analyzed are standing, bending of knee and movement with respect to time. The acquired positional data is processed in Arduino Uno using decision tree algorithm from machine learning concept. It is a noninvasive diagnostic solution which is provided to predict and prevent the chronic venous diseases at early stage.

Keywords: lower extremities, chronic venous diseases, Arduino UNO, Decision tree

College of Engineering & Technology Coimbatore 641659. Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

CHAPTER 4

RESULTS AND CONCLUSION

4.1 INTRODUCTION

The project titled Detection of Chronic Venous Diseases using Decision Tree Algorithm is based on popular open-source technology Arduino. The aim of this project is to create a non-invasive diagnostic method which is to predict and prevent chronic venous diseases at an early stage. We hope that the project has been completed with success with the utmost satisfaction. The code encompasses an easy screen that permits it to use with none inconvenience. The system created met its objectives, by being straightforward to use, implement and secure. This code is developed with measurability in mind. All modules within the system are tested with valid information and invalid information and everything work with success.

However, there is still lots of scope for future improvement and add ons in practicality.

4.2 RESULTS OF EACH SENSOR IN PROJECT

RESULT OF FORCE SENSOR

When an external pressure is applied to the force sensor pad, the pressure employed is measured and the output is displayed. If the measured value is <930, then it will display the measured valued and pressure level as "normal". If the

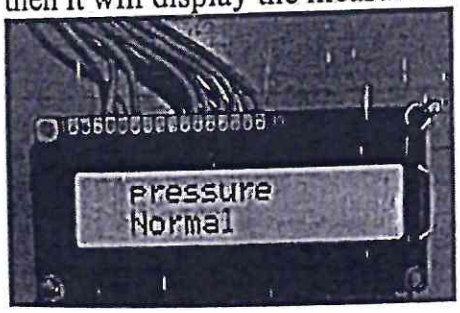

Fig 4.1 Snapshot of LCD displaying level of pressure

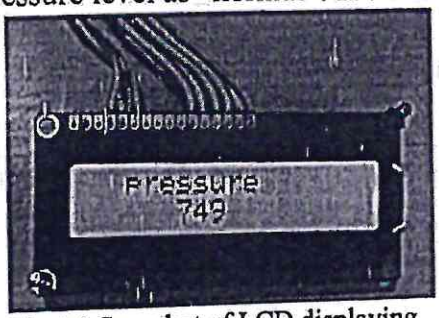

Fig 4.2 Snapshot of LCD displaying measured pressure value

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

RESPIRATORY TEMPERATURE CONTROLLING SYSTEM IN HUMIDIFIER

A PROJECT REPORT

Submitted by

ANANDHALAKSHMI.S	(712218121003)
ILLAKIYA MEIYAR.A	(712218121016)
KARUNAKARAN.K.M	(712218121021)
NIVETHA.K	(712218121032)

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

KANIYUR,COIMBATORE

ANNA UNIVERSITY :: CHENNAI 600 025

JUNE 2022

Dr.D.LAKSHMANAN,ME.,Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project " **RESPIRATORY TEMPERATURE CONTROLLING SYSTEM IN HUMIDIFIER**" is the bonafide work of"ANANDHALAKSHMI.S, ILLAKIYA MEIYAR.A, KARUNAKARAN.K.M, NIVETHA.K" who carried out the project work under my supervision.

SIGNATURE	**SIGNATURE**
Dr. V. INDU NAIR	MRS.J.GOWRI.,M.E.,
HEAD OF THE DEPARTMENT	**SUPERVISOR**
Department of Biomedical Engineering	Department of Biomedical Engineering
Park College of Engineering and Technology	Park College of Engineering and Technology
Kaniyur, Coimbatore – 641 657	Kaniyur, Coimbatore – 641 657

Submitted for the university project VIVA-VOICE examination held on 21/06/2022

Internal Examiner

External Examiner

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

Humidifiers act by allowing air passage inside a heated water reservoir. These devices are placed in the inspiratory limb of the ventilator circuit, proximal to the ventilator. After the air is loaded with water vapor in the reservoir, it travels along the inspiratory limb to the patient's airway. As condensation of water vapor may accumulate as the surrounding temperature of the inspiratory limb decreases, these systems are used with the addition of water traps, which require frequent evacuation to avoid risk of contamination of the circuit.Usual temperature setting for the current heated humidifiers is 37°C. The performance of humidifiers may be affected by room temperature, as well as patient minute ventilation. In the last situation, an increase in minute ventilation preserving the same temperature of the heated reservoir may not be adequate to deliver appropriate AH to the patient. Therefore, some humidifiers are supplemented with automatic compensation systems, which compute the amount of thermal energy needed to humidify certain volume of gas and change the temperature of the water reservoir accordingly.

The ultimate aim of this device is to monitor the respiratory temperature in humidifier.Since there is an constant temperature maintained in humidifier at 37 degree Celsius,due to changes in temperature may results in unwanted leakage in ventilator.When the actual temperature exceeds or decreases beyond certain extreme level, the alarm system is triggered. Even though the ideal system should permit auto corrections based on humidity levels, commercially available sensors provide feedback based on changes in temperatureU.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

CHAPTER IV
RESULTS AND CONCLUSION

4.1.INTRODUCTION

As the conclusion, the project was developed to create a system using arduino as the main controller.Aligned with current technologies, this project was created to ensure the respiratory temperature controller in humidifier. to help them just only giving thermistor to sense the temperature. Other than that, it also created to analyze the temperature by using the Peltier module to replace the humidifier . Last but not least, a buzzer module is fixed to alert when the temperature varies.Airway humidification represents a key intervention in mechanically ventilated patients. Inappropriate humidifier settings or selection of devices may negatively impact clinical outcomes by damaging airway mucosa, prolonging mechanical ventilation, or increasing work of breathing. Humidifier devices may function passively or actively, depending on the source of heat and humidity. Depending on the clinical scenario, humidifier selection may change over time.

4.2.RESULTS OF EACH MODULE

- This system uses NTC 100 K Thermistor sensor to senses the body temperature .This sensor is very sensitive and react to very small changes in temperature.
- This system uses Buzzer Module as an output device to alert the medicians when the respiratory temperature exceeds the required condition at 37 degree celsius.

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

PATIENT STRESS MONITORING SYSTEM USING GSM

A PROJECT REPORT

Submitted by

GOWTHAMI.M	(712218121013)
MANIMEKALAI.J	(712218121027)
NITHEESH KUMAR.K	(712218121031)
SOWMIYA.R	(712218121048)

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

in

BIOMEDICAL ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

KANIYUR.COIMBATORE

ANNA UNIVERSITY :: CHENNAI 600 025

JUNE 2022

Park College of Engineering & Technology Coimbatore 641659

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"PATIENT STRESS MONITORING SYSTEM USING GSM"** is the bonafide work of **"GOWTHAMI.M, MANIMEKALAI.J, NITHEESHKUMAR.K, SOWMIYA.R"** who carried out the project work under my supervision.

21/06/22

SIGNATURE

Dr.V.INDU NAIR Ph.D.,

HEAD OF THE DEPARTMENT

Professor

Department of Bio Medical Engineering,

Park college of Engineering And Technology,

Kaniyur, Coimbatore-641 659

SIGNATURE

J.GOWRI.M.E

SUPERVISOR

Professor

Department of Bio Medical Engineering,

Park college of Engineering And Technology,

Kaniyur, Coimbatore-641 659

Submitted for the University Project VIVA -VOCE examination held on 21.06.2022

21/06/22

Internal Examiner

External Examiner

Park College of Engineering & Technology Coimbatore 641659

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

ABSTRACT

Certain amount of stress is necessary for our lives, but too much stress brings negative consequences such as decreases in level of concentration, mental health issues such as anxiety and depression as well as ineffective ways of coping, such as substance abuse. Most people do not know when and what situations they get stress from. The detection of emotional states, and brain attentiveness levels are increasingly becoming an important field for human-computer interaction as we find more ways to benefit and advance with this data. During treatment, it is highly important to continuously monitor the vital physiological signs of the patient. Therefore, patient monitoring systems has always been occupying a very important position in the field of medical devices. The continuous improvement of technologies not only helps us transmit the vital physiological signs to the medical personnel but also simplifies the measurement and as a result raises the monitoring efficiency of patients

Park College of Engineering & Technology Coimbatore 641659. Kaniyur

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.

If you would like to change the language manually, start the Arduino Software (IDE) and open the Preferences window. Next to the Editor Language there is a dropdown menu of currently supported languages. Select your preferred language from the menu, and restart the software to use the selected language. If your operating system language is not supported, the Arduino Software (IDE) will default to English.

5. RESULT AND SCREENSHOTS

In this patient stress monitoring system we have used for four sensors those are temperature sensor,heartbeat sensor,GSR sensor,eyeblink sensor.Those are sense that specific parameters

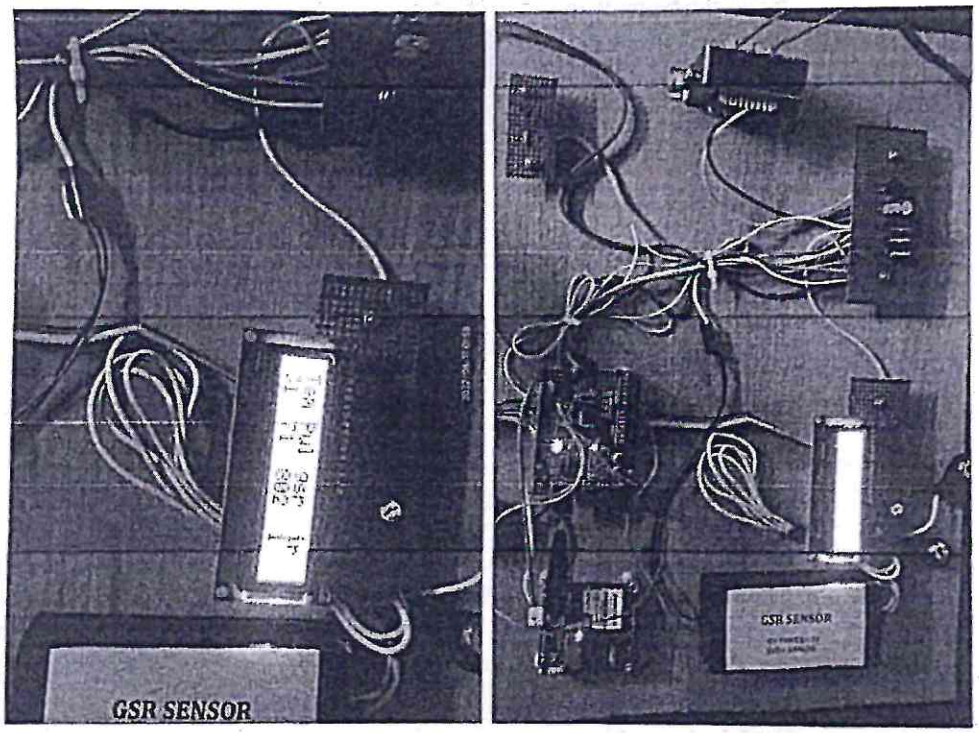

Fig4.19 Snapchat of hardware model

Dr.D.LAKSHMANAN,ME., Ph.D.
PRINCIPAL
Park College of Engineering & Technology
Avinashi Road,
Kaniyur, Coimbatore - 641659.