Savitribai Phule Pune University

Alard College of Engineering and Management

Oct/Nov 2023-24 OR/PR/TW EXAMINATION

ATTENDANCE REPORT- PBL (Termwork).

Center : ACEM (4070) Day:

Branch : APPLIED SCIENCE Date: 30/05/24.

Subject Name: Project Based Learning. Min .Marks 13

Name of Internal Prof. R. A. Deshmukh. SEM-II

Maximum Marks-25

Sr. No.	Seat No	Exam Seat No	Name of Student	Regular / Backlog	Marks obtained	Sign of Students
1	FE_2019_A29	F190700003	BIRADAR ABHISHEK ANIL	R	19	
2	FE_2019_A1	F190700005	ADE BALAJI SUBHASH	R	15	
3	FE_2019_A2	F190700006	ADE SUJAL RAJESH	R	20	
4	FE_2019_A3	F190700009	AGASIMANI RAJAMA CHINAGIBADASHAHA	R	22	
5	FE_2019_A4	F190700010	AGHAV AKANKSHA BANDU	R	21	
6	FE_2019_A5	F190700013	AMBURE KESHAV BHARATRAO	R	21	
7	FE_2019_A6	F190700015	ARBAT RUTVIK DURVAS	R	15	
8	FE_2019_A7	F190700016	ASGAONKAR SOHAM SAJJAN	R	21	
9	FE_2019_A27	F190700019	BHOSALE AVADHUT SAMBHAJI	R	15	
10	FE_2019_A9	F190700021	AWGHADE PRIYA PRAKASH	R	20	
11	FE_2019_A10	F190700023	BADE VAISHNAVI RAJESH	R	21	
12	FE_2019_A12	F190700024	BALWADKAR BHAKTI MACHINDRA	R	22	
13	FE_2019_A13	F190700025	BAND PRAGATI DINESH	R	21	
14	FE_2019_A15	F190700026	BARDE SHEFALI MADHUKAR	R	21	
15	FE_2019_A17	F190700027	BARMADE UDAYRAJE BALAJI	R	22	
16	FE_2019_A18	F190700028	BAROTE NIYAMAT HANNANPASHA	R	20	
17	FE_2019_A19	F190700029	BAWAGE VIJAY PRADEEP	R	15	
18	FE_2019_A20	F190700030	BEMBALKAR OM SATISH	R	13	
19	FE_2019_A21	F190700032	BERAD VAIBHAV VIKAS	R	13	
20	FE_2019_A22	F190700033	BHADKE GAURAV SUNIL	R	15	
21	FE_2019_A25	F190700037	BHAWARE SAMYAK DIPAK	R	17	
22	FE_2019_A26	F190700038	BHOKNAL PURVA RAJENDRA	R	18	
23	FE_2019_A28	F190700040	BHUJBAL RUSHIKESH RAMAKANT	R	18	
24	FE_2019_A30	F190700042	BOKADE RISHIKESH ANIL	R	15	
25	FE_2019_A31	F190700043	BORADE PRADYUAMN VASANT	R	16	
26	FE_2019_A32	F190700044	BORADE PRANAV BALIRAM	R	15	
27	FE_2019_A33	F190700045	CHAHANDE VEDANT AJAY	R	15	
28	FE_2019_A34	F190700048	CHAMALE VAIBHAVI VINOD	R	22	
29	FE_2019_A35	F190700049	CHAMATE OMKAR SUNIL	R	13	
30	FE_2019_A36	F190700050	CHANDANE VAISHNAVI ASHOK	R	16	
31	FE_2019_A37	F190700051	CHASKAR SNEHA DATTATRAY	R	22	

32	FE_2019_A67	F190700052	CHAUDHARI ADITYA	R	15	
33	FE_2019_A38	F190700054	CHAUDHARI MANISH PRAMOD	R	19	
34	FE_2019_A39	F190700055	CHAUDHARI SHRAVANI SUSHIL	R	21	
35	FE_2019_A40	F190700057	CHAURE PRERNA PRAKASH	R	20	
36	FE_2019_A41	F190700058	CHAVAN AKANKSHA BALASAHEB	R	13	
37	FE_2019_A43	F190700060	CHEKKE NEHA DILIP	R	13	
38	FE_2019_A44	F190700063	CHINTAWAR DIVYA SANTOSH	R	18	
39	FE_2019_A45	F190700066	CHOUDHARY NIRMA AJIT	R	16	
40	FE_2019_A46	F190700067	DABLE ANUSHKA KISHOR	R	17	
41	FE_2019_A47	F190700068	DAKE RAM PRATAPRAO	R	17	
42	FE_2019_A48	F190700069	DAKSH SINGH	R	20	
43	FE_2019_A49	F190700070	DARADE VINAYAK DADARAO	R	13	
44	FE_2019_A50	F190700072	DEOGADE SRUSHTI SUDHAKAR	R	13	
45	FE_2019_A51	F190700073	DESHMUKH DNYANESHWAR BALASAHEB	R	15	
46	FE_2019_A53	F190700074	DESHMUKH PRANAV DEVENDRA	R	13	
47	FE_2019_A54	F190700075	DESHMUKH SAKSHI SAMBHAJI	R	21	
48	FE_2019_A55	F190700076	DESHMUKH SUMIT SANJAY	R	20	
49	FE_2019_A57	F190700077	DHAKNE SURAJ SAINATH	R	15	
50	FE_2019_A58	F190700079	DHANVE SHREYA VINOD	R	20	
51	FE_2019_A59	F190700080	DHAVALE TUSHAR GANESH	R	22	
52	FE_2019_A61	F190700081	DHAWALE YASH JOHNSEMYUAL	R	13	
53	FE_2019_A62	F190700090	DUDHE PRANAV MAHESH	R	20	
54	FE_2019_A52	F190700091	DESHMUKH DUSHYANT	R	13	
55	FE_2019_A63	F190700094	GADGE NEHA SANJAY	R	22	
56	FE_2019_A64	F190700095	GAIKWAD ADITYA KISHOR	R	13	
57	FE_2019_A65	F190700096	GAIKWAD OMKAR JAGNNATH	R	13	
58	FE_2019_A66	F190700097	GAIKWAD YASHVANT PRADHUMN	R	13	
59	FE_2019_A42	F190700241	CHAVAN NIKHIL SANJAY	R	15	
60	FE_2019_A23	F190700288	BHALERAO PRADEEP SHANKAR	R	16	
61	FE_2019_A60	F190700313	DHAWALE ROHAN RAJENDRA	R	13	
62	FE_2019_A24	F190700331	BHAMERE SAURAV SANDEEP	R	17	
63	FE_2019_A11	F190700340	BAGWAN SHAHID ASHPAK	R	20	
64	FE_2019_A56	F190700383	DESHMUKH SUSHMA DIGAMBAR	R	19	
65	FE_2019_A14		BARDE SALONI RAMESHWAR	R		
66	FE_2019_A16		BARDE SHREYA BASWESHWAR	R		
67	FE_2019_A8		ATAPADKAR ROHAN SUBHASH	R		

Total Number of Students :

Total Number of Students Present :

Total Number of Students Absent : —

Total Number of Students Pass : All

Total Number of Students Fail : —

Name of Examiner :

Prof. R.A. Deshmukh

Sign of Sr. Supervisor

Alard Charitable Trust's

Alard College of Engineering and

Management,

Pune 411057

(Academic year 2023-2024)

DEPARTMENT OF APPLIED SCIENCE

CERTIFICATE

This is to certify that MISS CHASKAR SNEHA DATTATRAY, the class of FE CLASS having Roll No. F190700051 has Project Base learning entitled "MOTION DETECTION SENSOR in partial fulfilment of the syllabus of first year applied science Examination as prescribed by Savitribai Phule Pune University, Pune. For academic year 2023-2024(SEM-II)

Dr. Padma Zade

(Project Guide)

Dr.K.D.Sapate

(Principal)

Head of Department
Applied Science
ALARD COLLEGE OF ENGINEERING
& MANAGEMENT, MARUNJE
Sr No.50, Rajiv Gandhi Infotech Park,
Hinjewadi, Pune- 411 057

MOTION DETECTION SENSOR

ACKNOWLEDGMENT

I am honered to express my deep sense of gratitude towards my guide name Prof. PADMA ZADE MAM department of applied science for his creative suggestions, helpful discussion, unfailing advice, constant encouragement during the seminar work.

I consider myself privileged to have worked under her, as she always shared his vast experience so generously and patiently in spite of his busy schedule . I sincerely appreciate the interactive help, received from her by the way of advice, suggestion.

At the outset I take this opportunity to express my sincere gratitude to prof. PADMA ZADE MAM

and Principal sir for giving me an opportunity to pursue my studies for the for the present work.

Date –

Place –

ABSTRACT

This project contains the model of a PIR motion sensor which is used at places where a moving living object detection is required. It allows us to detect the presence of a people, animals when they are located in the range of the sensor. It is less complex, feasible to purchase, is a low power device and reliable i.e. it does not wear out soon and hence it is used in many gadgets and appliances. It is abbreviated as a "Pyroelectric or Passive Infrared Sensor". These are widely used in smart systems where a system has to respond automatically in the presence of a person such as in staircases, rooms, street lights, etc and turns them off in their absence due to which there is reduction in the consumption of energy and also a person need not mechanically perform the task thus reducing the monotonous work.

INTRODUCTION

A motion detector is a device that detects moving objects especially people. It is often integrated as a component of a smart system to receive alerts. It contains a Pyroelectric sensor which is an optical sensor that senses the moving object through emission or reflection of infrared rays. It is sensitive to a person's skin temperature through emitted black body radiation at mid-infrared wavelengths, in contrast to background objects at room temperature. PIR Sensors have a 3 pin circuit, one is the ground pin, other is the supply voltage pin generally 5V and the third pin is the output signal pin. The PIR sensor board results in a digital output which we recognize as a pin having a flip from low to high or high to low. It is difficult to differentiate between different energy emitting bodies like humans, animals, moving objects, heat emitting bodies, etc. Thus a potentiometer is generally used to tune the frequency of the input system to that of the emitting source to be selective. Once the moving body is out of the range of the detection of the sensor, it results in a low signal indicating the absence and thus system goes to a stand by state waiting for an input radiation.

REQUIREMENTS

Materials Requires –

- PIR Sensor Module
- Arduino UNO
- LED
- Buzzer
- Breadboard
- Connecting Wire
- 330 ohm resistor
- Battery - 9 volt

CONSTRUCTION

The PIR sensor consists of a pyro electric element which generates a signal when exposed to heat or temperature variation. It contains a special lens called Fresnel lens which sets the range and sensitivity of the sensor. It helps in converging the detected infrared signals to the pyroelectric element. To make the signal usable by the appliances, it has to be amplified to a dc level of atleast 5v which is done using a 2 stage amplifier and a comparator circuit.

The amplifier and comparator circuit was designed to get low power output to avoid high power dissipation.

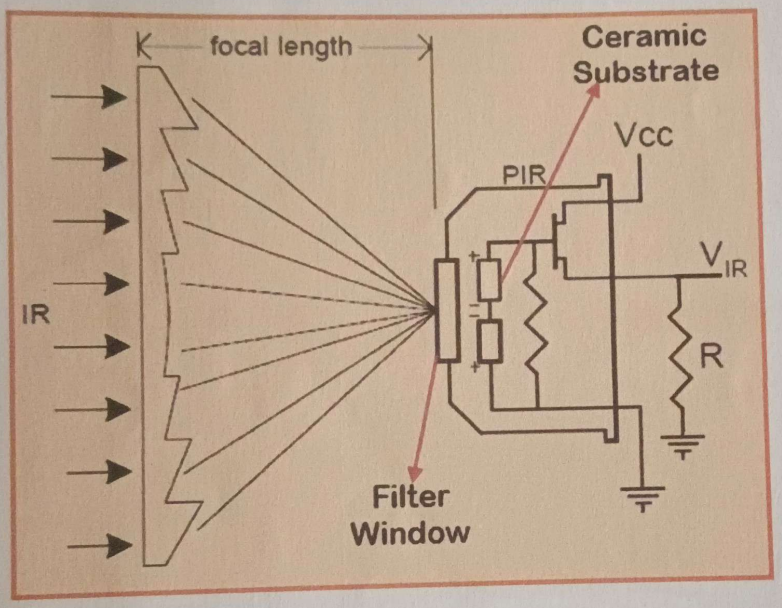
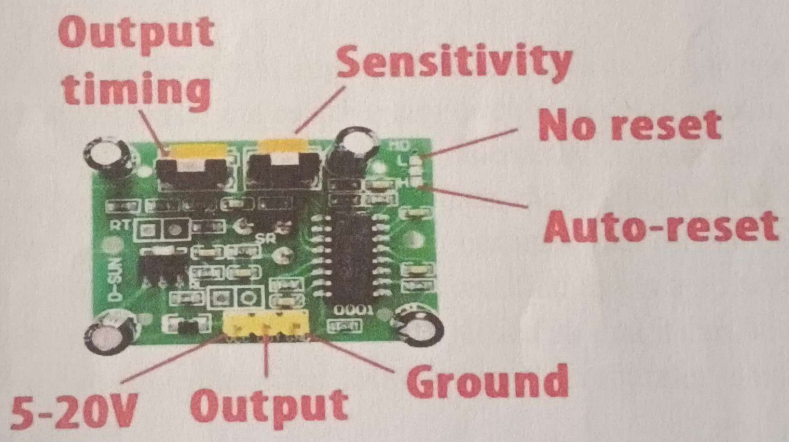


Figure 1: A generalised PIR sensor design The Fresnel lens condenses light, providing a larger range of IR to the sensor. To increase the range of action of the PIR sensor, the lens is split into multiple sections each section of which is a fresnel lens. The lens can change the breadth, range, sensing pattern, very easily. low power devices, we have constructed delay circuits using flip flops of CMOS technology.

Circuit Diagram and Explanation

The circuit Diagram for arduino motion detector project by interfacing Arduino with PIR module and blinking an LED/Buzzer is shown in the below image. We have powered the PIR sensor using he 5V Rail of the Arduino. The output pin of the PIR Sensor is connected to the 2nd digital pin of Arduino. This pin will be the INPUT pin for Arduino. Then the 3rd pin of Arduino is connected to the LED and Buzzer. This pin will act as the output pin of the Arduino. We will program the Arduino to trigger an Output on 3rd pin if an Input has been detected at 2nd pin. The complete Program is explained below.



WORKING OF A PIR SENSOR

Any object be it living or non-living emits radiations due to its heat. In case of humans or animals, IR radiations are emitted because of body heat. The Fresnel lens captures these rays and focuses them onto the pyroelectric element as shown in figure 3. The infrared rays from the person are focused at the sensing element and thus detected.

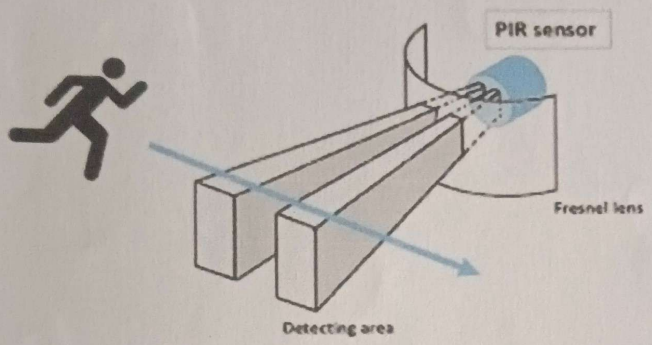
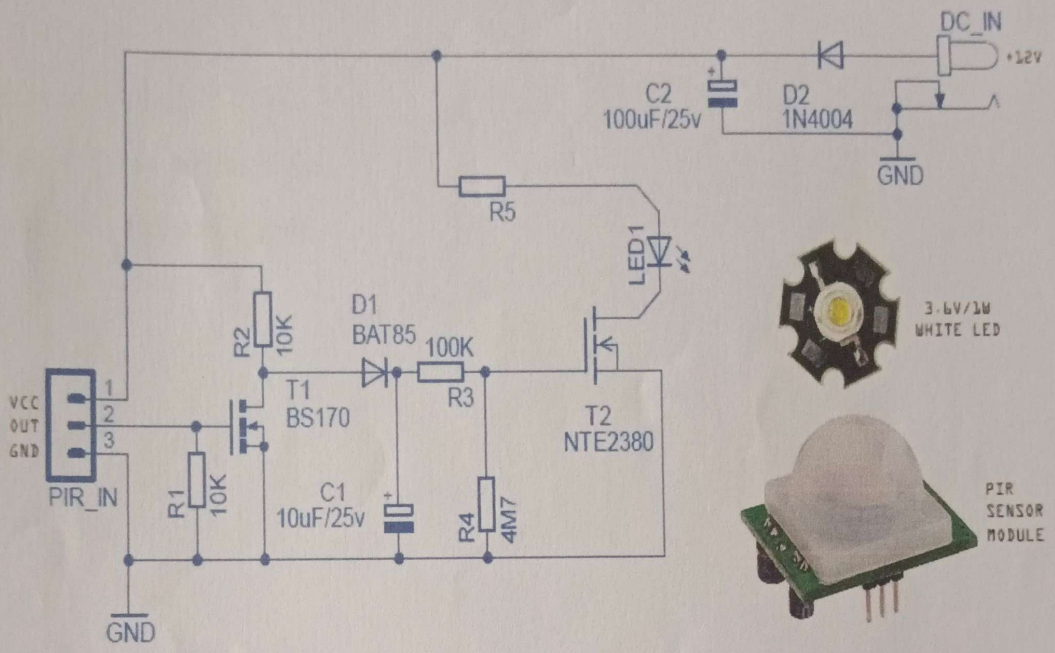


Figure 2: Fresnel lens As the signal amplified is available as a trigger only for a short period which is not sufficient to drive any circuits, a delay circuit was constructed which helps in rectifying the same. The delay circuits can be constructed using a duty cycle controller, flip-flops, etc. As the CMOS devices are The sensing element thus produces a analog output signal on detection of a heat source movement. This signal is full wave rectified to get a pulse. This pulse is of very few volts and thus has to be amplified so that it can be used elsewhere. Hence a two stage amplifier followed by a comparator is used to get appropriate voltage level .

The output analog waveform on full wave rectification gives a pulse which is given to an amplifier and a comparator to get a digital output with immunity to noise. This digital sensor output is on only for a certain amount of time, and re triggering is required to get consistent output. And thus a delay circuit is built using flip-flops.

Flow chart



FEATURES OF A PIR SENSOR

1. Motion Detection.
2. Low Noise.
3. Supply Voltage - 5V.
4. Delay Time Adjustable.
5. Standard Pulse Output.

DISADVANTAGES

1) Limited range
2) poor line of sight
3) PIR sensor pot should be adjusted in such a way to detect the humans only.

APPLICATIONS

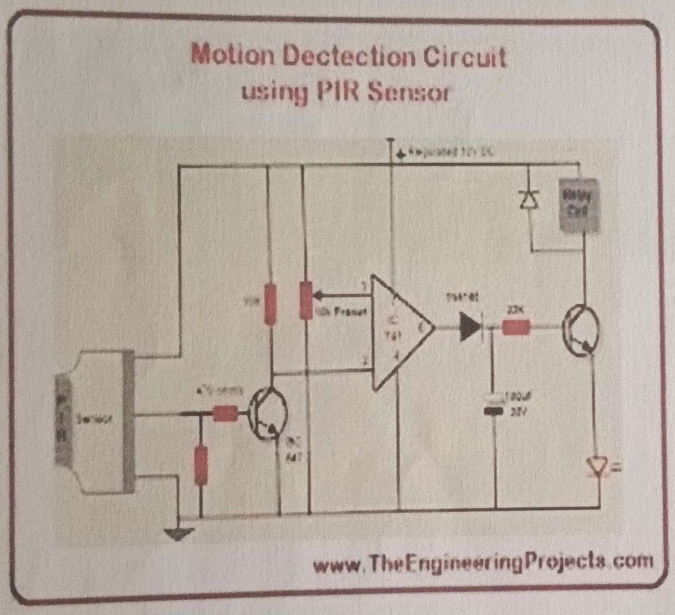
1) Street lights

2) Security system

3) Automatic door opening

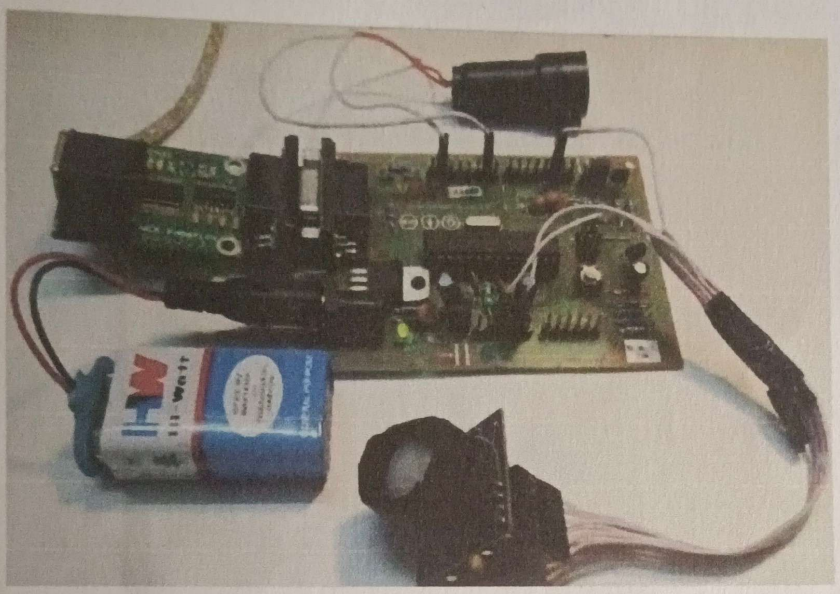
4) Any power saver circuits

The applications of the PIR sensor are based on the requirement of the system, such that the energy is not wasted and the system is automated without human intervention. The system is thus designed with low power, cost reliability and exhibits more immunity to noise. Figure 6: Amplifier and comparator circuit.



RESULT

The result show the final hardware design of the purposed system. This result clearly show how all the components required for our system is connected.



CONCLUSION

Hereby we come to an end of project Motion Detector Using PIR sensor. This project give us an idea to detect the motion. This project can be used anywhere either at home or office. This is also cost efficient does by this attempt of ours circuit can be used as protecting device and can be used for security also. It can be used as kind of antitheft device. It is very much cost efficient can be easily and efficiently.

REFERENCE

1] www.beprojectidea.blogspot.com

2] A great page on PIR sensors from GLOLAB (http://adafru.it/aKn)

3] NYU sensor report (http;/adafru.it/aKo)

4] Adafruit Industries http://learn.adafruit.com/pir-passive-infrared-proximity- motion-sensor.

January 10, 2023

INTERNSHIP CERTIFICATE

This is to certify that **Apurva Kumbhar (ECN: 1176958)** was Intern with Flex Electronics company from January **02, 2023** to Febru**ary 02, 2023.** She was designated as **Junior Engineer - In**tern in **GBS Engineering.**

We wish her all the very best for future.

For and on behalf of

FLEXTRONICS TECHNOLOGIES (INDIA) PRIVATE LIMITED

GLOBAL BUSINESS SERVICES

Sandra Andrews

Sandra Andrews
Human Resources

Mahindra & Mahindra Limited

Plot no -A1, Phase-IV
Chakan MIDC PhaseII,
Taluka-khed, Dist-Pune 410 501
Maharashtra, India

Tel: +91 2135 619842
Fax: +91 2135 617850

www.mahindra.com

Date:11.04.2024
Ref. M&M/ Intern/TL/FTR/15/31109894

To,
Anuradha Ravindra Rawool

Internship

This letter is to certify that **Anuradha Ravindra Rawool (Tokan no.32109894)** has Completed internship with Mahindra & Mahindra Limited as an intern from 05-02-2024 to 08-03-2024.

She has work under the Manufacturing Excellence department. Worked with the managers to improve the performance of Production as well as Logistics team and helped them to certified as Self Management Team. She is very good in problem solving, ability of analytical thinking and hardworking.

We wish her a best luck for future endeavours

Shreyash Acharya
General Manager
(Employee Relation)

GKN Fokker Elmo India Pvt. Ltd.

Date: 19-Apr-24

TO WHOM IT MAY CONCERN

This is to certify that **Rutuja Houshiram Walunj (Employee Id: 500345)** has completed internship with GKN Fokker Elmo India Pvt. Ltd. from **15-Jan-24 to 05-Feb-24**.

She has worked under the direct supervision of Team Leader and got the opportunity to work in *Stock adjustment in Warehouse team*. Along with her other duties, she was responsible for managing the timeliness of the project she was working on. Her manager is pleased with her timely highlighting and managing of any delays, which could have affected the project completions.

She is quick learner, and she learned our operations system and organizational culture quickly. With her eagerness to learn, she developed various skills while working with us. She outdid the expected performance and we are happy to have the opportunity for training such an enthusiastic candidate.

We wish her the best of luck for future endeavors.

Regards,

GKN FOKKER ELMO INDIA PVT. LTD. ★ PUNE

Abhishek Nagarkar
Human Resources

Bajaj Auto Limited,
Akurdi, Pune 411 035, India.
Tel +91 20 27472851
Fax +91 20 27473398
bajajauto.com

THE WORLD'S FAVOURITE INDIAN

HR/00119463

1/04/2024

ADESH DATTATRAY PHADTARE

VEHICLE INTEGRATION

Internship Completion Letter

This is certified that Mr. Adesh Dattatray Phadtare studying in Electrical Engineering (6th Semester) at ALARD COLLEGE OF ENGINEERING & MANAGEMENT, Pune. She has undergone training at our organization for 2 months from 01.01.2024 To 29.02.2024.

During the above mentioned training period, the candidate demonstrated his self-motivation skills to learn new skills, hardworking and sincerity.

We wish her all the best in his upcoming career. We hope that the knowledge acquired will help you shape your professional career. We wish you the best for all your future endeavours!

Best Regards,

MOHAN VAMSHI K

VP (HR) Bajaj

Auto Ltd.

EMBROSS

Date: September 3, 2023

Sub: - Internship at Embross Systems Pvt Ltd.

Dear Ashraf,

We hereby inform you that, your internship will be extended with reference to the earlier offer letter dated September 3, 2022.

The extension of Internship will be effective from September 3, 2023, for a period of 11 months commencing immediately and valid till August 2, 2024.

This extension binds and benefits both parties and any successors or assigns. As per the documented earlier Internship agreement dated September 3, 2022.

Your compensation has been increased to Rs.2,90,167/- PA.

All the terms and conditions of the original internship remain unchanged.

For **Embross Systems Private Limited**

EMBROSS SYSTEMS PVT. LTD. PUNE

Authorised Signatory

Embross Systems Private Ltd.

Gat No 17/1, Plot No 1, Near Qualitek Lab, Opp. VW Gate No 2, Nighoje, Pune- 410501

Contact: +91 8007770195 | www.embross.com

Kodacy® | SPACE Scientific Platforms And Cosmic Explorations | AICTE All India Council for Technical Education

Certificate
OF INTERNSHIP

EDUCATION REDEFINED
Kodacy
INTERNSHIP CERTIFICATE

This certificate is presented to:

Bhakti Chaudhari

for successfully completing the 30 day virtual internship program on

Electric Vehicle Technology

conducted by KODACY in association with Scientific Platforms And Cosmic Explorations (SPACE).

Date Of Completion: April 27, 2024
Certificate ID: 61c06bf6ed7cc1bd
< Scan this QR to check validity

Authorized Signature
Akash Joseph, (CEO)

Kodacy® | SPACE Scientific Platforms And Cosmic Explorations | AICTE All India Council for Technical Education

Certificate
OF INTERNSHIP

This certificate is presented to:

Sameer Sonwalkar

for successfully completing the 30 day virtual internship program on

Electric Vehicle Technology

conducted by KODACY in association with Scientific Platforms And Cosmic Explorations (SPACE).

Date Of Completion: April 27, 2024
Certificate ID: 999049c2f47b8970
< Scan this QR to check validity

Authorized Signature
Akash Joseph, (CEO)

Kodacy® | SPACE Scientific Platforms And Cosmic Explorations | AICTE All India Council for Technical Education

Certificate
OF INTERNSHIP

This certificate is presented to:

SANJANA KORDE

for successfully completing the 30 day virtual internship program on

Electric Vehicle Technology

conducted by KODACY in association with Scientific Platforms And Cosmic Explorations (SPACE).

Date Of Completion: April 27, 2024
Certificate ID: 0055335f6a6dd8fa
< Scan this QR to check validity

Authorized Signature
Akash Joseph, (CEO)

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Scientific Platforms And Cosmic Explorations

Certificate
OF INTERNSHIP

This certificate is presented to:

Shuddhay Raut

for successfully completing the 30 day virtual internship program on

Electric Vehicle Technology

conducted by KODACY in association with Scientific Platforms And Cosmic Explorations (SPACE).

Date Of Completion: January 20, 2024
Certificate ID: 0e10ae7145d2e7ff
< Scan this QR to check validity

Authorized Signature
Akash Joseph, (CEO)

24 April, 2024.

Mr. Sohel Shaikh
ER&D
IN- Hinjewadi

Re: Completion of Internship

Dear Mr Sohel Shaikh,

This is to certify that Sohel Shaikh was intern with the Tata technologies from February 01, 2024 to March 31, 2024. We are pleased to inform you that consequent to the successful completion of the trainingperiod.

We are confident that you will continue your best efforts in the assignments given to you and in the process add value to you and the organization.

We take this opportunity to wish you a long and mutually beneficial career in Tata Technologies.

Best Regards,

Vibhanshu Agnihotri
Global Head - Performance and Rewards

Kodacy™ | SPACE
Scientific Platforms And Cosmic Explorations

Certificate
OF INTERNSHIP

This certificate is presented to:

Avadhut Taral

for successfully completing the 30 day virtual internship program on

Electric Vehicle Technology

conducted by KODACY in association with Scientific Platforms And Cosmic Explorations (SPACE).

Date Of Completion: February 6, 2024
Certificate ID: 5b64da97171100f5
< Scan this QR to check validity

Authorized Signature
Akash Joseph, (CEO)

CLEAN SUSTAINABLE SOLAR ENERGY PRIVATE LIMITED

TO WHOMSOEVER IT MAY CONCERN

This is certified that Mr. Amar Pandit Ekunde studying in Electrical Engineering (6th Semester) at ALARD COLLEGE OF ENGINEERING & MANAGEMENT, Pune. He has undergone training at our organization for 2 months from 01.01.2024 To 29.02.2024.

During the above mentioned training period, the candidate demonstrated his self-motivation skills to learn new skills, hardworking and sincerity.

We wish him all the best in his upcoming career.

From, M/S Clean Sustainable Solar Energy Pvt. Ltd.

01/03/24

Clean Sustainable Solar Energy Pvt. Ltd.

Authorized Signatory

Registered Office:
C/o The Tata Power Company Limited
Corporate Center B, 34 Sant Tukaram Road
Carnac Bunder Mumbai - 400009

CIN: U40300MH2014PTC254371
Tel: +91 22 67171000
Fax: +91 22 67171950

PHILIPS

Internship Certification

This is to confirm that

Mr. Falak Budye

Has completed one year Internship at

Philips Global Business Services, LLP. Pune

From 8th January 2024 to 8th March 2024 And

completed the same satisfactorily

Place: Chakan, Pune

Date: 8th March 2024

For Philips Global Business Services

Siddhartha Choudhuri

Digitally signed by Siddhartha Choudhuri
Date: 2024.03.08 13:29:34 +05'30'

Siddhartha Choudhuri
PPS Manager – India hub

Philips Global Business Services, LLP
Unit No.102 (Part), 1st floor, ICC-Devi Gaurav, Technology Park;
Old Mumbai-Pune Road, Pimpri-Waghere, Pimpri, Pune 411018

Registered Office:
3rd Floor, Tower A, DLF IT Park,
08 Block AF, Major Arterial Road,
New Town (Rajarhat), Kolkata – 700156
West Bengal, India

March 29, 2024

ID: 151841

Subject: Internship Completion Letter

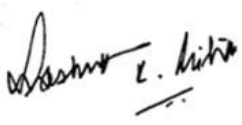
Dear Shubham Vishwakarma,

As you have successfully completed your internship period from 1St January 2024 to 31st March. You are hereby relieved of your duties with effect from 31st March 2024.

We hope that the knowledge acquired will help you shape your professional career.

We wish you the best for all your future endeavors.

Sincerely,
For KPIT Technologies Limited,



Shashwat K. Mitra
Global - Head Human Resources

24 April, 2024.

Mr. Prathmesh Kolte
ER&D
IN- Hinjewadi

Re: Completion of Internship

Dear Mr Prathmesh Kolte,

This is to certify that Prathmesh Kolte was intern with the Tata technologies from February 01, 2024 to March 31, 2024. We are pleased to inform you that consequent to the successful completion of the trainingperiod.

We are confident that you will continue your best efforts in the assignments given to you and in the process add value to you and the organization.

We take this opportunity to wish you a long and mutually beneficial career in Tata Technologies.

Best Regards,

Vibhanshu Agnihotri
Global Head - Performance and Rewards

Classification: Public

April 2, 2024.

Ms. MANJUSHA CHANDGUDE
ER&D
IN- Hinjewadi

Re: Completion of Internship

Dear Ms. MANJUSHA, CHANDGUDE,

This is to certify that Manjusha Chandgude was intern with the Tata technologies from January 01, 2024 to March 31, 2024 We are pleased to inform you that consequent to the successful completion of the training period.

We are confident that you will continue your best efforts in the assignments given to you and in the process add value to you and the organization.

We take this opportunity to wish you a long and mutually beneficial career in Tata Technologies.

Best Regards,

Vibhanshu Agnihotri
Global Head - Performance and Rewards

Classification: Public

April 2, 2024.

Mr. Raj Giri
ER&D
IN- Hinjewadi

Re: Completion of Internship

Dear Mr. RAJ GIRI,

This is to certify that Raj Giri was intern with the Tata technologies from January 01, 2024 to March 31, 2024. We are pleased to inform you that consequent to the successful completion of the training period.

We are confident that you will continue your best efforts in the assignments given to you and in the process add value to you and the organization.

We take this opportunity to wish you a long and mutually beneficial career in Tata Technologies.

Best Regards,

Vibhanshu Agnihotri
Global Head - Performance and Rewards

HRD/INTERNSHIP/2023/24

Jan 20, 2024

Prajakta Thorat

This is to certify that **Prajakta Sanjay Thorat** student of Electrical Engineering from **Alard college of engineering and management Pune** has successfully completed Internship in **Infosys Limited**, **Pune**.

The Internship was conducted from date **Dec 15, 2023 to Jan 15, 2024.**

During the Internship period his attendance and conduct was good.

Here's wishing for his future studies and carrier !

Best regards,

Richard Lobo EVP and Head – Human Resources – Infosys Limited

Bajaj Auto Limited,
Akurdi, Pune 411 035, India.
Tel +91 20 27472851
Fax +91 20 27473398
bajajauto.com

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HR/00121514

1/04/2024

PRANAV RAMESH PATIL

TEST & VALIDATION

Internship Completion Letter

This is certified that Mr. Pranav Ramesh Patil studying in Electrical Engineering (6th Semester) at ALARD COLLEGE OF ENGINEERING & MANAGEMENT, Pune. He has undergone training at our organization for 2 months from 01.01.2024 To 29.02.2024.

During the above mentioned training period, the candidate demonstrated his self-motivation skills to learn new skills, hardworking and sincerity.

We wish him all the best in his upcoming career. We hope that the knowledge acquired will help you shape your professional career. We wish you the best for all your future endeavours!

Best Regards,

MOHAN VAMSHI K

VP (HR) Bajaj

Auto Ltd.

Bajaj Auto Limited,
Akurdi, Pune 411 035, India.
Tel +91 20 27472851
Fax +91 20 27473398
bajajauto.com

HR/00108865

1/04/2024

PRIYANKA ANANDRAO GHANWAT

E&E SYSTEMS (R&D)

Internship Completion Letter

This is certified that Ms. Priyanka Anandrao Ghanwat studying in Electrical Engineering (6th Semester) at ALARD COLLEGE OF ENGINEERING & MANAGEMENT, Pune. She has undergone training at our organization for 2 months from 01.01.2024 To 29.02.2024.

During the above mentioned training period, the candidate demonstrated his self-motivation skills to learn new skills, hardworking and sincerity.

We wish her all the best in his upcoming career. We hope that the knowledge acquired will help you shape your professional career. We wish you the best for all your future endeavours!

Best Regards,

MOHAN VAMSHI K

VP (HR) Bajaj

Auto Ltd.

Bajaj Auto Limited,
Akurdi, Pune 411 035, India.
Tel +91 20 27472851
Fax +91 20 27473398
bajajauto.com

HR/00109295

1/04/2024

SAYALI RAJENDRA KHUDE

E&E SYSTEMS (R&D)

Internship Completion Letter

This is certified that Ms. Sayali Rajendra Khude studying in Electrical Engineering (6th Semester) at ALARD COLLEGE OF ENGINEERING & MANAGEMENT, Pune. She has undergone training at our organization for 2 months from 01.01.2024 To 29.02.2024.

During the above mentioned training period, the candidate demonstrated his self-motivation skills to learn new skills, hardworking and sincerity.

We wish her all the best in his upcoming career. We hope that the knowledge acquired will help you shape your professional career. We wish you the best for all your future endeavours!

Best Regards,

MOHAN VAMSHI K

VP (HR) Bajaj
Auto Ltd.

Our technology. Your success.
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KSB

Internship Completion Certificate

KSB-HRD/2023/INT063
Date – Monday, March 06, 2023

To whomsoever it may concern

This is to certify that **Mr. Mandar Mukund Bhagwat,** from **Alard College of Engineering and Management, Pune** has successfully completed his internship at KSB Limited - IPD, Pimpri location, Pune.

Internship Details are as follows:

- Duration – February 03, 2023 to March 06, 2023
- Project Title – Web shop Creation for Spare Kits.
- Department – Product Management and Product Support.
- Objective – To create a web shop through which customers can order the products easily.

During the internship candidate has demonstrated his skills with self-motivation to learn new techniques. The overall performance was satisfactory.

The project assigned was completed on time.

We wish, all the best in all future endeavours.

From KSB Limited

YKhatale

Yogesh Khatale
Manager-HR & OD

Mail to : (Head Office) **KSB Limited** : Mumbai - Pune Road, Pimpri, Pune - 411 018. (India)
Tel. : +91 20 2710 1000 Fax : +91 20 2742 6000 Visit us at : www.ksbindia.co.in
Registered Office : Office No. 601, Runwal R-Square, L.B.S. Marg, Mulund (West), Mumbai- 400 080, Tel.: 022-6658 8787
Zonal Offices : Chennai • Kolkata • Mumbai • NOIDA CIN : L29120MH1960PLC011635

Bajaj Auto Limited,

Plot No. A-1, Village - Mahalunge,
MIDC, Chakan, Pune 410 501.

Tel. +91 2135 259301, 04-10
Fax +91 2135 259302, 03
www.bajajauto.com

THE WORLD'S FAVOURITE INDIAN

CHAKAN/ HRD/ TE/ 119608
02 August 2023

TRAINING CERTIFICATE

NAME	: SUSHANT KALGONDA PATIL
TICKET NO	: 119608
DESIGNATION	: DTE
DEPARTMENT	: Veh Assly Line -KTM
DATE OF JOINING	: 09 July 2022
DATE OF LEAVING	: 02 August 2023
RATE OF SALARY	: STIPEND Rs.16000.00 P.M.
REASON FOR LEAVING	: COMPLETION OF TRAINING

For Bajaj Auto Limited.,

Amit Gambhir
Div. Manager (Support Services)

PMS
RoBoTics Research Center

Certificate

OF INTERNSHIP

HEREBY CERTIFIES THAT

Smiti Multani

HAS SUCCESSFULLY COMPLETED 4 WEEKS INTERNSHIP IN

'Artificial Intelligence and Internet of Thing'

DATE OF COMPLETION: 17/04/2023

EMAIL ID: **pmsroboticsrc@gmail.com**

Mr Rajwardhan Salunke
Center Head
PMS RoBoTics Research Center

Reg.no:UDYAM-MH-26-0146057

KSB

Internship Completion Certificate

KSB-HRD/2023/INT062
Date – Monday, March 06, 2023

To whomsoever it may concern

This is to certify that **Mr. Shivraj Sampat Dhaygude,** from **Alard College of Engineering and Management, Pune** has successfully completed his internship at KSB Limited - IPD, Pimpri location, Pune.

Internship Details are as follows:

- Duration – February 03, 2023 to March 06, 2023
- Project Title – Web shop Creation for Spare Kits.
- Department – Product Management and Product Support.
- Objective – To create a web shop through which customers can order the products easily.

During the internship candidate has demonstrated his skills with self-motivation to learn new techniques. The overall performance was satisfactory.

The project assigned was completed on time.

We wish, all the best in all future endeavours.

From KSB Limited

Yogesh Khatale
Manager-HR & OD