



Gokhale Education Society's
R. H. Sapat College of Engineering, Management Studies & Research, Nashik-
422005

Internal Quality Assurance Cell and Department of Computer Engineering

Report of “Robotics Workshop Techfest IIT-B”

Summary:-

1. **Name of the Institute:** GES's R.H. Sapat College of Engineering, Management Studies and Research, Nashik
2. **Name of the organizing body:** IQAC, R.H. Sapat College of Engineering, Management Studies and Research, Nashik
3. **Any collaborating agency:** - Techfest, IIT Bombay
4. **Type of the event organized:** Webinar
5. **Level of the event:** All departments of the Institute (internal)
6. **Name of the event:** “ Robotics Workshop ”
7. **Conveners of the Event:-** Dr. D.V.Patil and Dr. Neeta Deshpande
8. **Coordinators:** Kshitij Bhalsane(TE-A) , Tejaswini Chaudhari(TE-A) ,
Suyoga Gaikwad(TE-A) , Arjun Kendre(TE-A) , Lina Nhayade(TE-B)
9. **Date :**30/9/2024
10. **Time of the session:**6 pm to 7:20 pm
11. **Expenditure incurred:** Nil
12. **Duration:** One day.
13. **Number of participants - 41 students**
14. **Poster:** Annexure -I
15. **Notice for Students:-** Annexure-II
16. **Attendance:** Annexure III
17. **Session Evidences:-** Annexure – IV
18. **Sample Feedback Forms and Analysis:-** Annexure V

Details:-

The Department of Computer Engineering of Gokhale Education Society's R.H. Sapat College of Engineering Management Studies and Research are organizing "**Robotics Workshop**" on 30th Sept 2024.

It was one hour workshop. The presentations given by Mr. Mohit Jajoriya were a visual guide to the Robotics competition of Techfest Event and covered basics of robotics from part to algorithms alike. From initiation to successful deployment, they explored each step in detail.

They presented the entire concept in a Presentation format that made audience understand the Workshop through engaging visuals and clear explanations. They also studied breaking down the complexities of Algorithms and Execution into actionable steps.

41 Students Attended this Session.

The event was coordinated by Kshitij Bhalsane(TE-A) , Tejaswini Chaudhari(TE-A) , Suyoga Gaikwad(TE-A) , Arjun Kendre(TE-A) , Lina Nhayade(TE-B)

Timing of event: 6 pm to 7:20 pm.

Report prepared by Kshitij Bhalsane and Tejaswini Chaudhari



Head of Computer Department and Coordinator IQAC

Dr. D.V. Patil

Annexure-I: - Poster

**R.H.Sapat College of Engineering, Management
Studies and Research**

Presents

ROBOTICS WORKSHOP

in collaboration with

**TF Techfest
IIT BOMBAY**

Mode: Online

Scan to register



6:00pm, 30th September

Annexure -II



Gokhale Education Society's
R. H. Sapat College of Engineering, Management Studies & Research, Nasik-
422005

Notice

25/9/2024

Internal Quality Assurance cell of R. H. Sapat College of Engineering , Management Studies and Research in association with IIT Mumbai Techfest is organizing Workshop on Robotics.

Date : 30/9/2024

Venue : Online

Time : 6 pm

Resource Person : Mr. Mohit Jajoriya(IIT Techfest)

Convenors : : Kshitij Bhalsane , Tejaswini Chaudhari , Suyoga Gaikwad, Arjun Kendre, Lina Nhayade

Dr. D. V Patil

IQAC Coordinator

Annexure –III-Attendance

Name

41 responses

Rugved sonawane

KONDEKAR SUNIDHI SANDEEP

Bachhav Snehal Chandrakant

Roshani Pramod Chavan

Arjun madhukar Kendre

Gaurav Yeola

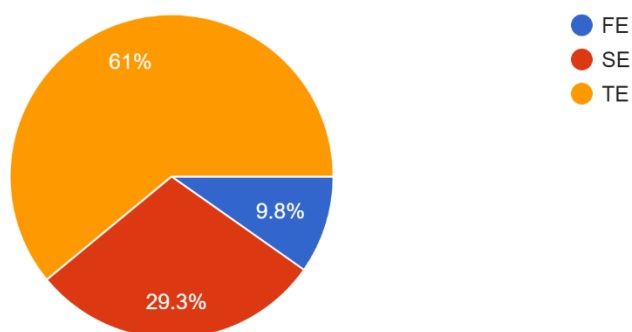
Prathamesh khadse

Chanchala Digambar Firake

Anuj Nilesh Amrutkar

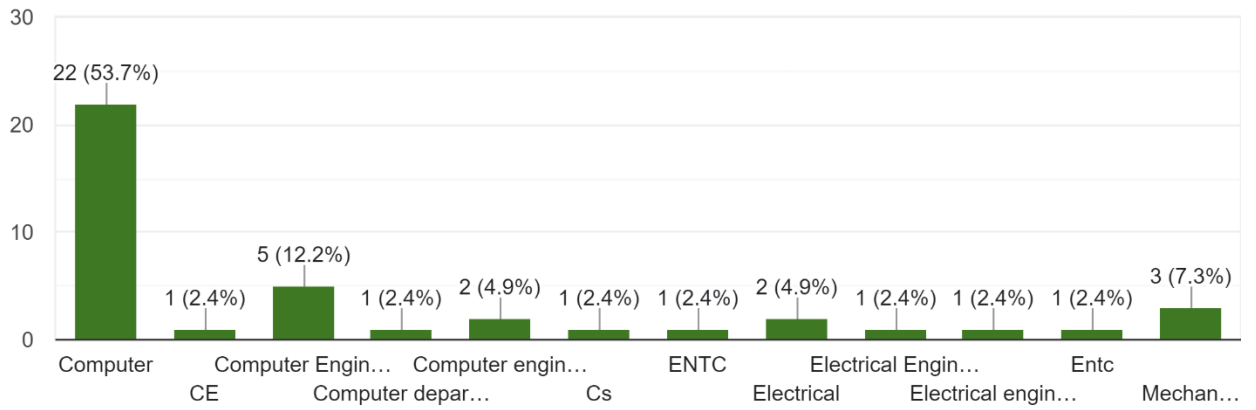
Year

41 responses



Branch

41 responses



Annexure IV: Event Evidences

The image displays two screenshots of a Google Meet session, showing a presentation slide and a participant list.

Top Screenshot:

- Slide Content:**
 - Techfest**™
Asia's Largest Science & Technology Festival
 - Patronage Over the Years**
 - Logos: CEE (Centre for Excellence in Education), UNESCO, UNICEF, SAYEN, MAKE IN INDIA, Digital India (Power To Empower).
- Participant List:** Mohit Jajoriya (Presenting), Kshitij Bhalsane, Snehal Bachhav, Lina Nhayade, Rushikesh Marathe, Bhagesh Rangole, Sonal Handge, 15 others, Chanchala Firake joined.

Bottom Screenshot:

- Slide Content:**
 - About me**
 - Mohit Jajoriya**
Mechanical Engineering, IIT Bombay
Director and COO
Mechximize Digitech Pvt. Ltd.
 - <https://www.linkedin.com/in/mohit-jajoriya-9987bb22a/>
 - MECHXIMIZE DIGITECH**
 - https://www.youtube.com/watch?v=0_FBWj8VBo
 - www.techfest.org
- Participant List:** Mohit Jajoriya (Presenting), Kshitij Bhalsane, Snehal Bachhav, Lina Nhayade, Rushikesh Marathe, Bhagesh Rangole, DURVESH DURGUDE, 13 others, Kusum Chaudhari.

Meet - nkj-yuux-ghw
<https://meet.google.com/nkj-yuux-ghw?authuser=1>

Mohit Jajoriya (Presenting)

IR Sensor pinouts

www.techfest.org

6:45 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Nadeer Ansari, shubham chaudhari, Sakshi Bhoge, DURVESH DURGUDE, Anuj Amrutkar, Netra Vyavahare, Kusum Chaudhari

Meet - nkj-yuux-ghw
<https://meet.google.com/nkj-yuux-ghw?authuser=1>

Mohit Jajoriya (Presenting)

Line Follower Robot

Black line on white floor

IR sensors

Robot (top view)

- Left sensor "sees" black
 - Left wheel slows down
 - Robot turns left
- Both sensors "see" white
 - Both wheels spin at same speed
 - Robot goes straight
- Right sensor "sees" black
 - Right wheel slows down
 - Robot turns right

<https://www.instagram.com/p/CviEafilbzm/>

www.techfest.org

6:48 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Nadeer Ansari, shubham chaudhari, Sakshi Bhoge, Mohini Mahajan, Anuj Amrutkar, Shradha Devadhe, Kusum Chaudhari

Meet - nkj-yuux-ghw
 https://meet.google.com/nkj-yuux-ghw?authuser=1

Mohit Jajoriya (Presenting)

Differential Mechanism

Differential steering, also known as tank steering, controls a robot's direction by varying the speed or direction of its wheels on either side of the chassis.

Advantages:

- Simple and cost-effective as it requires no additional steering mechanism.
- Ideal for compact robots and rough terrain as it offers high maneuverability.

Disadvantages:

- Can cause wheel slippage on smooth surfaces, reducing efficiency.
- More challenging to control at higher speeds

Forward Motion

Right Turn

www.techfest.org

6:29 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Snehal Bachhav, Radhika Vaishnav, Areeba, Lina Nhayade, Anuj Amrutkar, Netra Vyavahare, Kusum Chaudhari

Meet - nkj-yuux-ghw
 https://meet.google.com/nkj-yuux-ghw?authuser=1

Mohit Jajoriya (Presenting)

About Techfest

HACKATHON	ROBOTICS	FINANCE	OLYMPIAD
<p>Datamatics Hackathon Prize INR 1,50,000</p> <p>Register Explore</p>	<p>Blxathon Prize INR 1,25,000</p> <p>Register Explore</p>	<p>ESG-Invest Prize INR 50,000</p> <p>Register Explore</p>	<p>Scholar Olympics Prize INR 1,00,000</p> <p>Register Explore</p>

www.techfest.org

6:08 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Snehal Bachhav, Lina Nhayade, Rushikesh Marathe, Bhagesh Rangole, DURVESH DURGUDE, Samruddhi Rokade, Kusum Chaudhari

Meet - nkj-yuux-ghw
<https://meet.google.com/nkj-yuux-ghw?authuser=1>

Mohit Jajoriya (Presenting)

Motor

- Choosing the right motors is very important step
- There is a different variety with different rpm, torque, size, power, weight, etc.
- There is always a tradeoff while selecting the motors as torque and rpm are inversely proportional for given power
- Motor specifications to consider:
 - **Torque:** The rotational force a motor can provide.
 - High torque motors for heavy-duty robots or gripping larger objects.
 - **RPM (Rotations per Minute):** Speed of the motor.
 - Higher RPM for faster robots, lower RPM for more control.
 - **Voltage and Current Requirements:** Make sure the motor matches the power supply.
- It is suggested to use motors of rpm between 150-300
- Higher rpm motors are difficult to control but they are faster

www.techfest.org


6:15 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Snehal Bachhav, Dr. Neeta Deshpande, Areeba, Bhagesh Rangole, Anuj Amrutkar, Netra Vyavahare, Kusum Chaudhari

Meet - nkj-yuux-ghw
<https://meet.google.com/nkj-yuux-ghw?authuser=1>

Mohit Jajoriya (Presenting)

About Techfest



Techfest™
 INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

Techfest is the annual science and technology festival of Indian Institute of Technology Bombay, consisting of social initiatives and outreach programs throughout the year.

www.techfest.org

https://www.youtube.com/watch?v=0_FBWJi8VBo

6:07 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Snehal Bachhav, Lina Nhayade, Rushikesh Marathe, Bhagesh Rangole, DURVESH DURGUDE, Suyash Ghotekar, Kusum Chaudhari

Meet - nkj-yuux-ghw
<https://meet.google.com/nkj-yuux-ghw?authuser=1>

Mohit Jajoriya (Presenting)

Category of Robot?

```

graph TD
    Robot[Robot] --> AI[Artificial Intelligence or Autonomous Robot]
    Robot --> Manual[Manually Operated Robot]
  
```

www.techfest.org

6:11 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Snehal Bachhav, Lina Nhayade, Rushikesh Marathe, Bhagesh Rangole, DURVESH DURGUDE, Netra Vyavahare, Kusum Chaudhari

Meet - nkj-yuux-ghw
<https://meet.google.com/nkj-yuux-ghw?authuser=1>

Mohit Jajoriya (Presenting)

DC Motor

Clockwise

www.techfest.org

6:20 PM | nkj-yuux-ghw

Participants: Mohit Jajoriya, Kshitij Bhalsane, Snehal Bachhav, Lina Nhayade, Areeba, Amit Joshi, Anuj Amrutkar, Netra Vyavahare, Akshata Nagpure joined

Annexure V: Sample Feedback Forms and Analysis

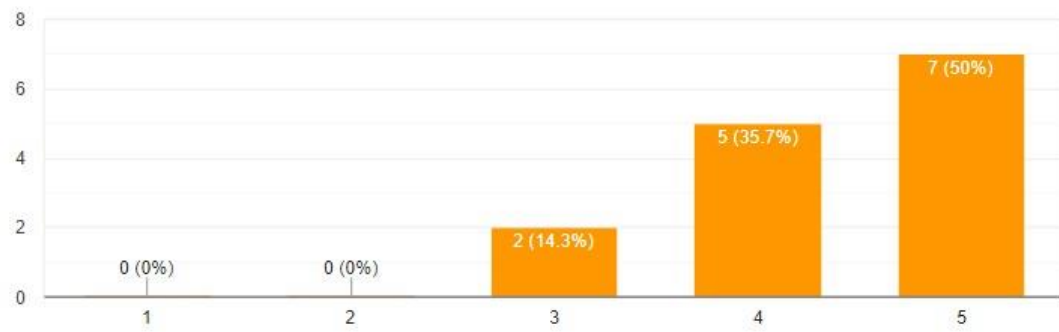
Form_Responses1			
Timestamp	Name	Year	How satisfied were you with the workshop?
30/09/2024 17:59:44	Suyoga Gaikwad	TE	5
30/09/2024 18:00:34	Tejaswini Chaudhari	TE	4
30/09/2024 18:58:52	Tejaswini Chaudhari	TE	4
30/09/2024 19:00:17	Ashwini Vishnu Gaikwad	TE	4
30/09/2024 19:01:45	Prajwal Rajput	TE	4
30/09/2024 19:02:54	Roshani Pramod Chavar	TE	5
30/09/2024 19:04:06	Rahul Vilas Patil	SE	5
30/09/2024 19:04:10	Pratik sunil gaikwad	TE	5
30/09/2024 19:10:22	Lina Bharat Nhayade	TE	5
30/09/2024 19:10:45	Netra Vyavahare	SE	4
30/09/2024 19:21:36	Sonje Samiksha Deepak	TE	4
30/09/2024 19:22:47	Sonje Samidha Deepak	TE	3
30/09/2024 21:02:21	Sakshi Ravindra Bhoge	SE	5
30/09/2024 21:03:59	Chaitali Rajendra Bari	SE	4

How satisfied were you with the speaker of v	How satisfied were you with the session cont
5	5
4	4
4	4
5	4
4	4
5	5
5	5
5	3
5	5
4	5
3	3
4	4
5	5
4	5

How satisfied were you with the session content?

 Copy

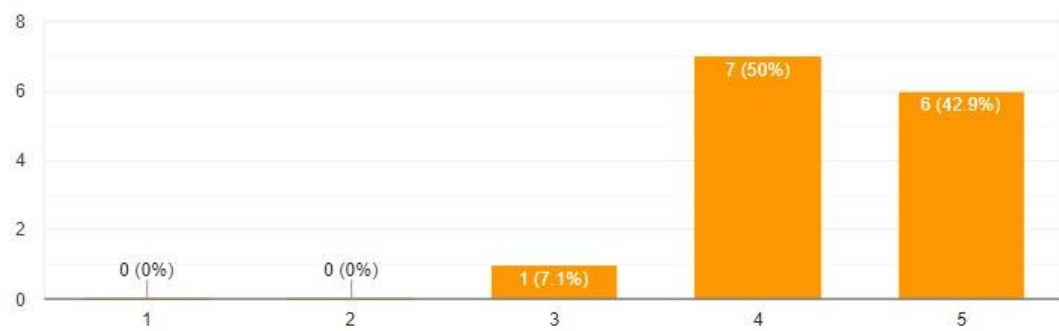
14 responses



How relevant and helpful do you think it was for you?

 Copy

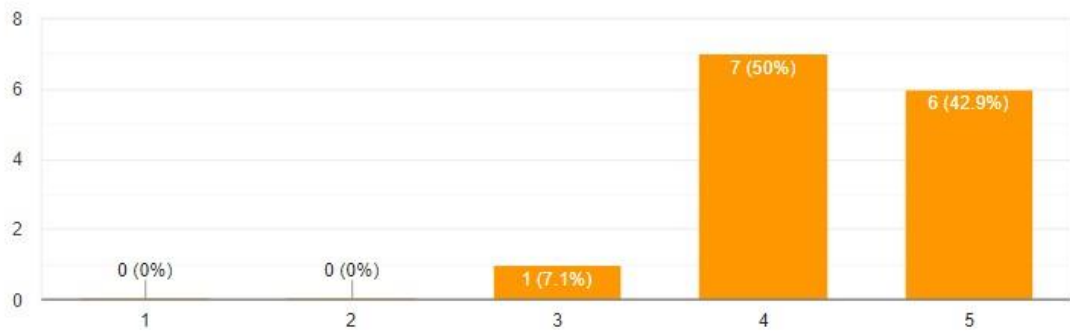
14 responses



How satisfied were you with the workshop?

 Copy

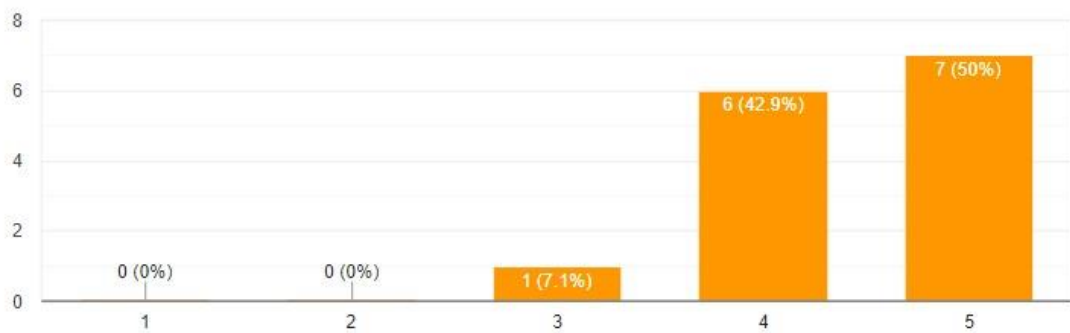
14 responses



How satisfied were you with the speaker of workshop?

 Copy

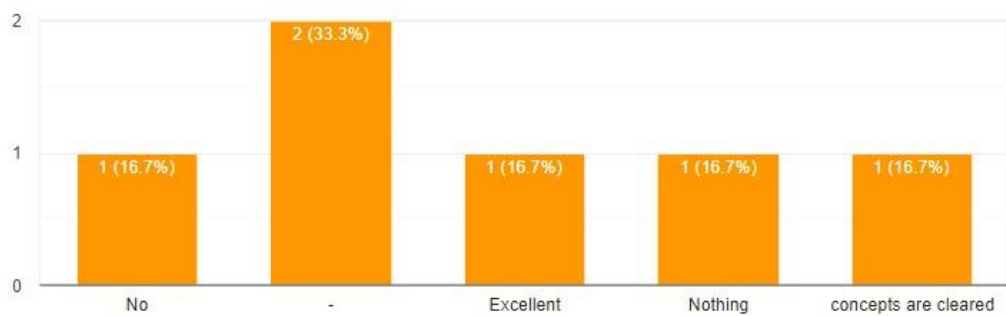
14 responses



Any additional comments regarding the sessions ?

 Copy

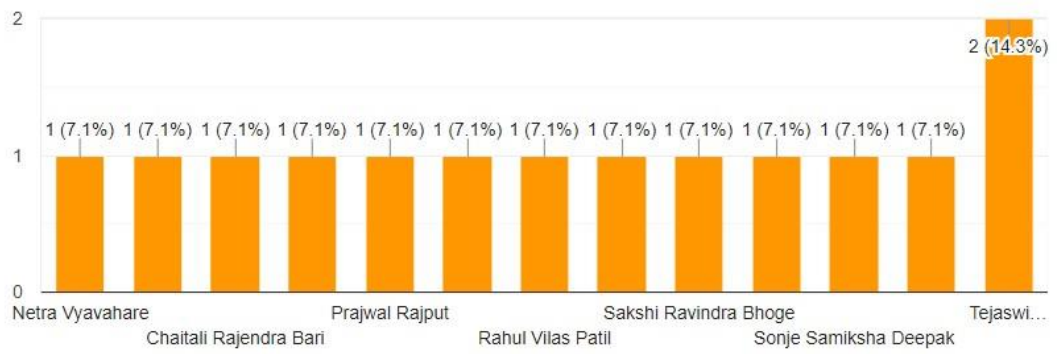
6 responses



Name

 Copy

14 responses



Year

 Copy

14 responses

