



Army Institute Of Technology (AIT), Dighi Camp, Pune - 15.

Director : 7249250115, Joint Director : 7249250117, Principal : 7249250186.

Exch : 7249250183, 7249250184, 7249250185

Website : www.aitpune.com Email: ait@aitpune.edu.in

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Report for AY 2024-25

Centre of Excellence for AI and Robotics

Vision

To foster a culture of innovation, hands-on learning, and interdisciplinary collaboration in the field of AI and Robotics, empowering students to become future-ready technocrats and problem-solvers.

Mission

The mission of the CEAR Club is to provide a dynamic platform for students to explore and innovate in the fields of AI and Robotics. Through hands-on projects, technical workshops, and competitive events, the club aims to bridge the gap between theoretical knowledge and practical application. It fosters creativity, teamwork, and critical thinking while encouraging research and industry exposure.

Name of faculty in-charges		
1	Dr. Avinash Patil	
Name of Student Secretaries		
1	Meher Meet Singh	
2	Nikita Choudhry	
Budget Allocated by Institute		Rs. 24.54 Lakhs
Sponsorship received		Rs. 00.00
Name of activities/events conducted		
Sr No.	Name of activity	Type (Inter college/ Intra college)
1.	Arduino Workshop	Intra College
2.	Robo Kick-Off	Intra College
3.	Robo Sumo	Intra College
4.	Robo Soccer	Intra College
5.	Drone Drag	Inter College
6.	Robo Race	Inter College
7.	Robo Clench	Inter College
8.	Line Tracer	Inter College

Dr Avinash Patil

Head

Centre of Excellence for AI and Robotics



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1. Arduino Workshop

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/robotics.club_ait?utm_source=ig_web_button_share_sheet&igsh=ZDNlZDc0MzIxNw==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Arduino Workshop
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intra college
Start Date	17 September, 2024
End Date	17 September, 2024
Mode of event (offline/online)	Offline
Number of Student Participants	50
Number of Faculty Participants	1
Number of External Participants, If any	0
	1.Basics of Arduino 2.Technical Thinking

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Description of activity(50-150 words)	To introduce first-year engineering students to the fundamentals of electronics and programming through hands-on experience with *Arduino microcontrollers*. The workshop aims to spark interest in embedded systems and robotics by teaching basic concepts such as circuit design, sensor integration, and coding in a beginner-friendly environment. By the end of the session, students will be able to build and program simple Arduino-based projects.
Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Meher Meet Singh, Nikita Choudhary
Video URL (optional)	
Geo tagged Photograph	
Program Outcomes(POs)	POs(1,3,4,5,6)

Avinash

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2. Robo Kick - Off

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/p/DG92fDMojhj/?igsh=MXhrMGcxMGRnc3Byag==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Robo Kick Off
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intra college
Start Date	16th March, 2025
End Date	16 th March, 2025
Mode of event (offline/online)	Offline
Number of Student Participants	10 teams
Number of Faculty Participants	1
Number of External Participants, If any	6 teams
Objectives of activity (min 2)	1.Problem Solving 2.Competitive Spirit
Description of activity(50-150 words)	The Robotics Kick-off marked the beginning of an exciting journey for the club. It served as introducing them to core concepts, upcoming competitions, and hands-on opportunities in the world of robotics. The session sparked curiosity and set the tone for a year filled with innovation and learning.

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Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Meher Meet Singh
Geo tagged Photograph1	
Program Outcomes(POs)	POs(1,3,4,5,6)

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3. Robo Sumo

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/p/DHss1spsoNn/?igsh=MWhkaWdreGN3M2xodA==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Robo Sumo
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intra college
Start Date	05 April, 2025
End Date	05 April, 2025
Mode of event (offline/online)	Offline
Number of Student Participants	10 teams
Number of Faculty Participants	1
Number of External Participants, If any	6 teams
Objectives of activity (min 2)	1.Competitive Spirit 2. Technical Thinking
Description of activity(50-150 words)	In Robo Sumo, bots faced off in a test of strength, strategy, and stability. Participants designed and built their own combat robots to push opponents out of a ring, simulating the traditional Japanese sumo format. The event was a crowd-puller and fostered skills in mechanical design and control system.
Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil

Avinash

Dr Avinash Patil

Head

Centre of Excellence for AI and Robotics

Student Name (student involved in organizing event)	Meher Meet
Geo tagged Photograph1	
Program Outcomes(POs)	POs(1,3,4,5,6)

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4. Robo Soccer

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/p/DHss1spsoNn/?igsh=MWhkaWdreGN3M2xodA==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Robo Soccer
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intra college
Start Date	05 April, 2025
End Date	05 April, 2025
Mode of event (offline/online)	Offline
Number of Student Participants	10 teams
Number of Faculty Participants	1
Number of External Participants, If any	6 teams
Objectives of activity (min 2)	1.Competitive spirit 2.Technical thinking
Description of activity(50-150 words)	Robo Soccer brought a fun and competitive twist to robotics as teams programmed bots to play football autonomously or with manual control. This event challenged participants to integrate motion control, team coordination, and strategic planning, making it both thrilling and educational.
Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Meher Meet

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Program Outcomes(POs)	POs(1,3,4,5,6)

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5. Drone Drag

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Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/robotics.club_ait?utm_source=ig_web_button_share_sheet&igsh=ZDNlZDc0MzIxNw==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Drone Drag
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intra College
Start Date	06 April, 2025
End Date	06 April, 2025
Mode of event (offline/online)	Offline
Number of Student Participants	8 teams
Number of Faculty Participants	1
Number of External Participants, If any	5 teams
Objectives of activity (min 2)	1.To test the speed of drone 2. To Promote innovation
Description of activity(50-150 words)	Drone Drag was all about speed, stability, and precision. Participants showcased their piloting skills by racing drones across a straight track. The event emphasized the importance of aerodynamic design and flight control, drawing attention to the fast-evolving field of aerial robotics.
Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Meher Meet

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Geo Tagged Photo 1	
Program Outcomes(POs)	POs(1,3,4,5,6)

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6. Robo Race

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/robotics.club_ait?utm_source=ig_web_button_share_sheet&igsh=ZDNIZDc0MzIxNw==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Robo Race
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Inter college
Start Date	04 April, 2025
End Date	04 April, 2025
Mode of event (offline/online)	Offline
Number of Student Participants	12 teams
Number of Faculty Participants	1
Number of External Participants, If any	8 teams
Objectives of activity (min 2)	1. Technical approach 2. To promote innovation
Description of activity(50-150 words)	Robo Race tested the speed and efficiency of bots across a dynamic, obstacle-filled track. Participants had to ensure their robots could navigate turns, ramps, and hurdles using either manual or autonomous control. The event highlighted rapid prototyping and real-time decision-making.

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Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Prateek Nehra, Nancy
Geo tagged Photograph1	
Program Outcomes(POs)	POs(1,3,4,5,6)

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7. Robo Clench

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/robotics.club_ait?utm_source=ig_web_button_share_sheet&igsh=ZDNIZDc0MzIxNW==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Robo Clench
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intercollege event
Start Date	4 April, 2025
End Date	4 April, 2025
Mode of event (offline/online)	Online
Number of Student Participants	10 teams
Number of Faculty Participants	1
Number of External Participants, If any	10 teams
Objectives of activity (min 2)	1.Promoting innovation 2.A grip test
Description of activity(50-150 words)	Robo Clench was a gripping challenge where bots were required to pick, hold, and place objects accurately within a time limit. The event tested the mechanical precision and control of robotic arms, giving students practical experience in actuator systems and design optimization.

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Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Prateek Nehra , Nancy
Geo tagged Photograph1	
Program Outcomes(POs)	POs(1,3,4,5,6)

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8. Line Tracer

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/robotics.club_ait?utm_source=ig_web_button_share_sheet&igsh=ZDNlZDc0MzIxNw==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	Line Tracer
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intercollege event
Start Date	6 April, 2025
End Date	6 April, 2025
Mode of event (offline/online)	Offline
Number of Student Participants	8 teams
Number of Faculty Participants	1
Number of External Participants, If any	6 teams
Objectives of activity (min 2)	1. Technical thinking 2. Sensor test
Description of activity(50-150 words)	The Line Tracer event focused on algorithmic thinking and sensor integration. Participants built robots capable of detecting and following a pre-defined path using line sensors. This event introduced students to basic automation, real-world navigation techniques, and control logic.
Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Meher Meet

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<p>Geo tagged Photograph1</p>	
<p>Program Outcomes(POs)</p>	<p>POs(1,3,4,5,6)</p>

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COMPETITIONS

9. BITS GOA (QUARK)

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/robotics.club_ait?utm_source=ig_web_button_share_sheet&igsh=ZDNlZDc0MzIxNw==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	BITS GOA (QUARK)
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intercollege event
Start Date	12 FEB, 2025
End Date	29FEB, 2025
Mode of event (offline/online)	Offline
Number of Student Participants	2 teams
Number of Faculty Participants	1

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Objectives of activity (min 2)	<ul style="list-style-type: none"> • 2nd runner-up in Line Follower • Built and programmed a functional robot tailored to the challenge theme • Applied principles of mechanical engineering, electronics, and coding <p>Engaged in on-the-spot problem-solving during live events</p>
Description of activity(50-150 words)	<p>Participated in a national-level robotics competition showcasing skills in mechanical design, embedded systems, and autonomous robotics. Collaborated as part of a team to design, build, and program a robot to complete technical challenges under time and resource constraints. Gained hands-on experience with microcontrollers (Arduino/Raspberry Pi), motor control, sensor integration, and debugging in a competitive environment..</p>
Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Meher Meet
Geo Tagged Photo 1	
Program Outcomes(POs)	POs(1,2,3,5,9,11)

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10. IIT Guwahati (ESCALADE 13.0)

Required Field	Information to be filled
Link for publicity on Social media (Facebook//twitter/Instagram)	https://www.instagram.com/robotics.club_ait?utm_source=ig_web_button_share_sheet&igsh=ZDNlZDc0MzIxNw==
Academic Year	2024-25
Name of coordinator	Meher Meet
Program/Activity/Name	IIT Guwahati (ESCALADE 13.0)
Select one of the Program Type (Workshop/FDP/Seminar/conference/intercollege event/intra college event/ other)	Intercollege event
Start Date	29 AUGUST, 2024
End Date	1 SEP, 2024
Mode of event (offline/online)	Offline
Number of Student Participants	1 teams
Number of Faculty Participants	1

Avinash

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Objectives of activity (min 2)	<p>Qualified for Zonals</p> <ul style="list-style-type: none"> Designed and built a manually operated robot optimized for stability and grip on inclined and uneven surfaces Controlled robot using wired/wireless interface for accurate task execution Played a key role in chassis fabrication, motor selection, and remote control system
Description of activity(50-150 words)	<p>Participated in Escalade, a robotics competition requiring the design of a manually controlled robot to navigate a multi-level arena with inclines, sharp turns, and precision-based tasks. Successfully qualified for Zonals, demonstrating strong mechanical design and responsive control. Focused on chassis fabrication, motor selection, and control systems.</p>
Faculty Name (Faculty involved in organizing event)	Dr. Avinash Patil
Student Name (student involved in organizing event)	Meher Meet
Geo Tagged Photo 1	
Program Outcomes(POs)	POs(1,2,3,5,9,11)

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