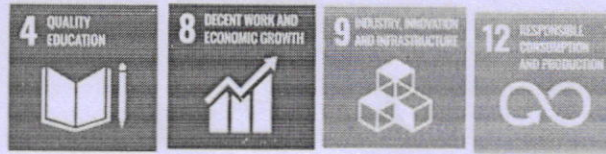## Department of Artificial Intelligence and Machine Learning

15.05.2025

Submitted,

Sub: Report on Two days hands-on workshop **"AI in Robotics & Automation"** - Reg,

With respect to the above subject, a Two-Day Hands-On Workshop on AI in Robotics and Automation was successfully conducted on 12th and 13th May 2025, organized by the AIML department in association with AI Club and C.A.R. The workshop aimed to equip third-year students with hands-on experience in building and controlling AI-powered robotic systems. It was facilitated by industry experts Mr. Astle John and Ms. Siya Sushil from Comedkares Innovation Hub, Bengaluru. The program also aligned with key United Nations Sustainable Development Goals (SDGs), promoting innovation, sustainability, and skill development, Quality Education (SDG 4) particularly in the areas of Industry, Innovation, and Infrastructure (SDG 9), Decent Work and Economic Growth (SDG 8), and Responsible Consumption and Production (SDG 12).

Day 1 Highlights

The first day focused on introducing foundational concepts in **Robotics and AI Integration**.

Key sessions included:

- **IR Sensor Module:**

  Students explored obstacle detection and distance measurement using IR sensors, gaining insights into sensor-based navigation and automated responses.

- **Bluetooth Module**:

  Participants implemented **wireless control** systems to send commands from mobile apps to their robots, enabling real-time interaction.

- **Servo Motor Control**:

  Practical sessions demonstrated **precision actuation**, using servo motors for robotic arms and steering mechanisms.

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Day 2 Highlights

The second day explored **real-world AI applications** in automation. Students undertook

- **Parking Assistance System**:

  Using IR sensors, students built a simulation of automated parking, reinforcing concepts of intelligent mobility.

- **AI-Controlled RC Car**:

  Teams developed autonomous RC cars capable of following commands, obstacle detection, and navigation. This task simulated real-world **smart vehicle functionality**.

  A major highlight was the **RC Car Competition**, where students programmed their vehicles

1. Start from a designated line,
2. Collect an object placed mid-track,
3. Return to the starting point in minimum time.

   Evaluation criteria included speed, task accuracy, and control.

The Two-Day Workshop on AI in Robotics and Automation was a great success, enhancing students' technical skills and promoting sustainable, innovative thinking. Real-time activities, expert guidance, and engaging competitions created a dynamic, hands-on learning environment. Special thanks to Mr. Astle John, Ms. Siya Sushil, and the organizing teams from AIML, AI Club, and C.A.R. The workshop concluded with high enthusiasm and inspired students to pursue further exploration in AI and robotics. Herewith, the glimpses of the event have been enclosed.

Thanking You

Yours Sincerely,

CO - ORDINATOR.
R. Th
15/5/25

Professor & Head
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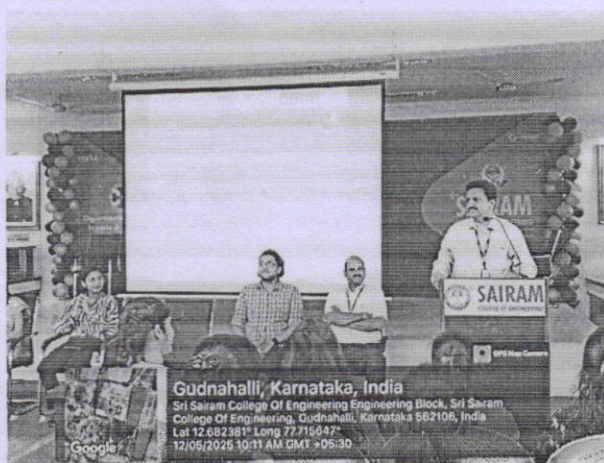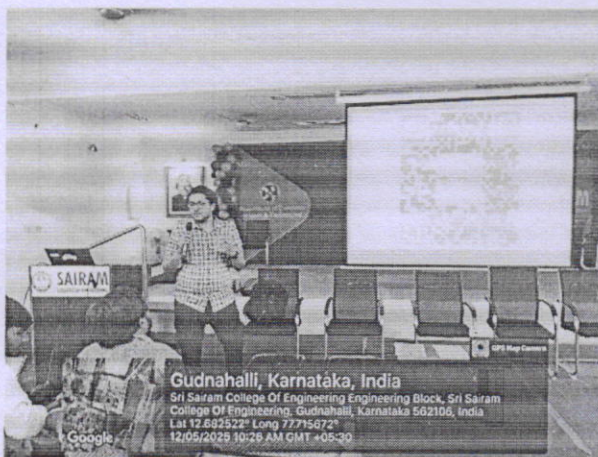
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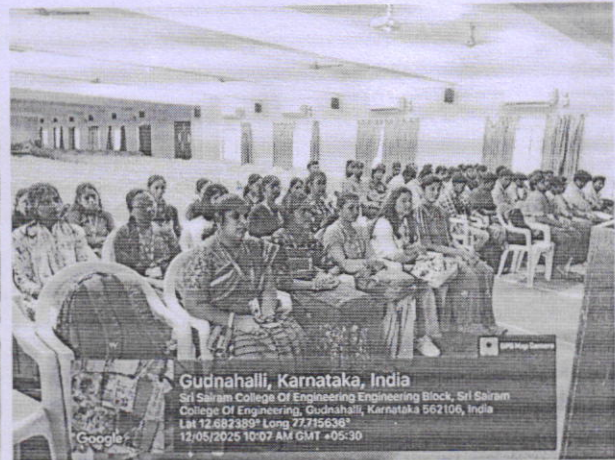12/05/2025 03:17 PM GMT +05:30

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How satisfied were you with the overall workshop experience
45 responses

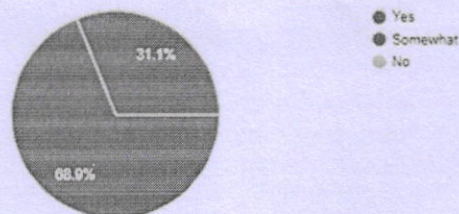- Very satisfied
- Satisfied
- Neutral

44.4%
51.1%

Were the concepts of AI, automation and robotics explained clearly
45 responses

- Yes
- Somewhat
- No

31.1%
68.9%

How would you rate the facilitators knowledge and delivery of the content
45 responses

- Excellent
- Good
- Average

35.6%
64.4%
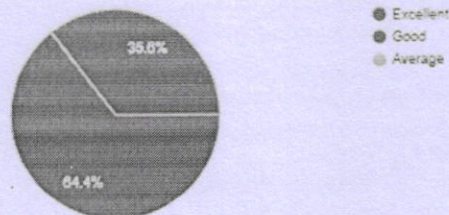
Did you feel actively engaged during the workshop sessions
45 responses

- Yes
- Somewhat
- No

15.6%
82.2%