MAHARAJA AGRASEN INSTITUTE OF TECHNOLOGY
MAIT
उद्यमेन हि सिध्यन्ति कार्याणि न मनोरथैः

# Maharaja Agrasen Institute of Technology, Delhi

## Department of Mechanical Engineering

**EVENT REPORT** **Date: 28th February 2026**

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| **Department** | : Mechanical Engineering |
| **Activity Category** | : Workshop |
| **Title of the Activity** | : AI-Integrated Industrial Robotics Workshop: Programming and Control of a Robotic Arm |
| **Theme/Focus Area** | : Industrial Robotics, Artificial Intelligence, Automation and Mechatronics |

### 1. Basic Details

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| **Date of Activity** | : 26th February 2026 |
| **Day** | : Thursday |
| **Time** | : 11:00 AM onwards |
| **Venue/Platform** | : Seminar Hall, Department of Mechanical Engineering, MAIT |
| **Organised by** | : Department of Mechanical Engineering, MAIT in collaboration with KratoX Intelligence Pvt. Ltd. |
| **Activity Coordinator(s)** | : Ms. Surabhi Lata |
| **Number of Participants** | : |
| • Students | : 34 |
| • Faculty | : 1 |
| • External Participants | : Technical Experts from KratoX Intelligence Pvt. Ltd. |

### 2. Resource Person Details

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| **Name** | : Mr. Rohan Kapoor |
| **Designation** | : Founder and CEO |
| **Organization** | : KratoX Intelligence Pvt. Ltd. |
| **Area of Expertise** | : Industrial Robotics, Artificial Intelligence, Automation Systems, Python Programming |
| **Brief Profile** | : Mr. Rohan Kapoor is a technical expert in robotics and AI-integrated automation systems. He has experience in industrial robotics, robotic arm programming, automation technologies, and intelligent control systems. During the workshop, he demonstrated the practical working of a 6-DOF industrial robotic arm and guided students on robotic programming, motion planning, and AI-based robotic applications. |

## 3. Objectives of the Activity

The workshop was planned in order to address the following objectives:

- To provide practical exposure to industrial robotics and automation technologies.
- To bridge the gap between theoretical robotics concepts and real-world industrial applications.
- To familiarize students with Python-based robotic arm programming and motion control.
- To create awareness about AI-integrated robotic systems and intelligent automation applications.
- To encourage innovation and project development in robotics, AI, and mechatronics.

## 4. Description of the Activity

**Purpose of the event:** The workshop was organized to provide students with practical exposure to industrial robotics, artificial intelligence, and automation technologies. The event aimed to bridge the gap between theoretical concepts taught in robotics and mechatronics courses and their real-world industrial applications. It also encouraged students to explore emerging technologies such as AI-integrated robotic systems, motion control, and intelligent automation.

**Key Topics covered:**

- Introduction to industrial robotics and automation systems.
- Structure and working of a 6-DOF industrial robotic arm.
- Fundamentals of forward and inverse kinematics.
- Python-based robotic arm programming techniques.
- Motion planning in joint space and Cartesian space.
- Joint-level control and robotic manipulator movement.
- Integration of sensors, actuators, and end-effectors in robotic systems.
- AI-integrated robotic applications such as vision-based pick-and-place systems.
- Industrial applications of robotics, AI, and mechatronics systems.

**Activities Conducted:**

- Live demonstration of a 6-DOF industrial-style educational robotic arm.
- Practical session on robot programming using Python.
- Demonstration of robotic arm motion planning and control.
- Interactive explanation of forward and inverse kinematics concepts.
- Observation of AI-enabled robotic applications and automation systems.
- Hands-on exposure to robotic hardware integration and control mechanisms.
- Technical discussions on industrial automation and intelligent robotics applications.

**Interaction Highlights:**

- Interactive session with Mr. Rohan Kapoor from KratoX Intelligence Pvt. Ltd.

- Student queries regarding robotics programming, motion control, and AI integration were addressed.
- Discussions on industrial applications of robotics and automation technologies.
- Insights into career opportunities and future trends in robotics and artificial intelligence.
- Exchange of innovative project ideas related to robotics and smart automation systems.
- Active participation of students during practical demonstrations and technical discussions.

5. **Learning Outcomes / Impact**

**Skills gained:**

- Developed basic programming skills for robotic arm control using Python.
- Improved practical understanding of motion planning and robotic manipulator control.
- Gained hands-on exposure to industrial robotic systems and hardware integration.
- Enhanced analytical and problem-solving skills related to automation systems.
- Improved technical communication and interaction skills through expert discussions.

**Knowledge enhancement:**

- Enhanced understanding of forward and inverse kinematics concepts.
- Learned the structure and operation of a 6-DOF industrial robotic arm.
- Gained knowledge about AI-integrated robotics and intelligent automation systems.
- Understood the role of sensors, actuators, and end-effectors in robotic applications.
- Strengthened conceptual understanding of industrial robotics and mechatronics systems.

**Awareness created:**

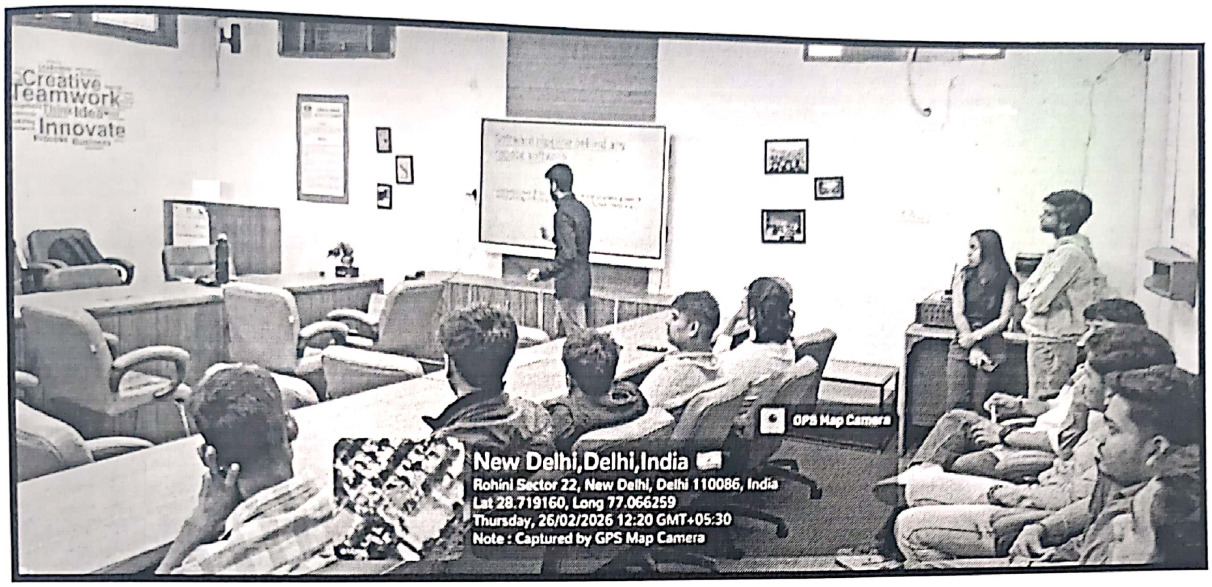
- Created awareness regarding emerging technologies in robotics and artificial intelligence.
- Increased understanding of industrial automation applications in modern industries.
- Developed awareness about industry requirements and future technological trends.
- Understood the significance of AI-enabled systems in smart manufacturing and automation.
- Gained awareness of career opportunities in robotics, automation, and AI domains.

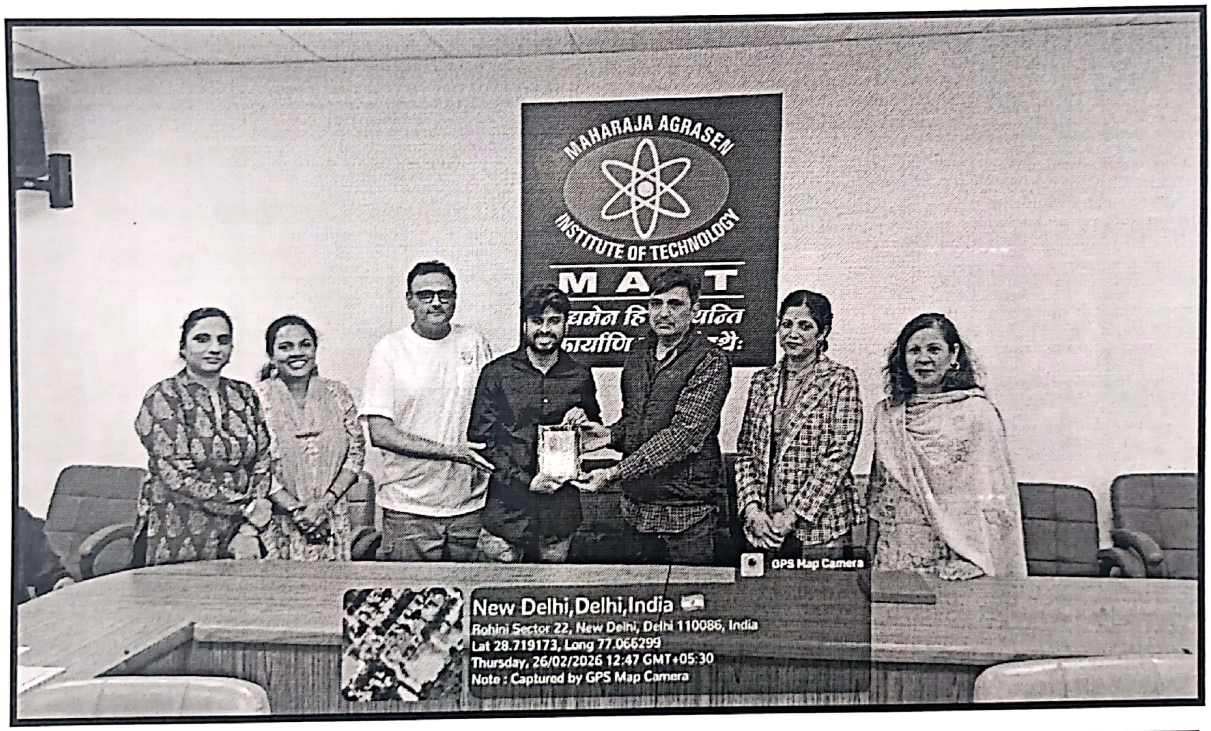
**Innovation mindset development:**

- Encouraged students to explore innovative applications of robotics and AI technologies.
- Inspired interest in developing intelligent automation-based academic projects.
- Motivated students to think creatively about real-world industrial problem-solving.
- Promoted curiosity toward advanced robotic systems and smart technologies.
- Encouraged interdisciplinary learning in robotics, programming, and artificial intelligence.

6. **Photographs & Documentation**

- **2 Geo-tagged photographs :**





- **Attendance Sheet** : Attached as Annexure

7. **Feedback Summary**

- **Mode of feedback collection:** Printed Feedback Form (Hardcopy)
- **Average rating** :

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 |
|---|---|---|---|---|---|---|---|---|---|
| 4.47 | 3.97 | 4.00 | 4.29 | 4.47 | 4.29 | 4.35 | 4.26 | 4.24 | 4.41 |

- **Key feedback insights** :
  - ❖ Students appreciated the hands-on learning experience with the robotic arm.
  - ❖ Participants found the workshop highly informative and industry-oriented.
  - ❖ The practical exposure to AI-integrated robotics enhanced students' interest in automation technologies and innovative project development.

8. **Challenges faced**

The challenges which were faced were:

- Limited time for extended hands-on practice for all participants.
- Managing practical interaction sessions with a large number of students simultaneously.

9. **Recommendations / Future Scope**

The following are the recommendations which can be included in future workshops:

- Advanced-level robotics and AI workshops may be organized in the future.
- More hands-on sessions and mini-project activities can be included for deeper practical learning.

- Industry collaborations may be strengthened to provide continuous exposure to emerging technologies.
- Students may be encouraged to undertake interdisciplinary projects in robotics, AI, and automation.

**10. Annexures**

- Annexure I - Attendance Sheets
- Annexure II - Event Poster / Brochure
- Annexure III - Participant Feedback Summary

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**Report Prepared By:**

**Name** : Ms. Surabhi Lata

**Designation** : Assistant Professor

**Signature** :

**Verified By:**
HoD

**Approved By:**
Director