

# Instructions on Technical Presentation for Participants:

Welcome to the Robotics and AI Challenge 2025!

- **Please go through the general guidelines before starting your technical presentation.**

## **ATTENTION:**

**Your project can be AI-based, robotics-based, or a combination of both.**

You can upload your 5 minutes video when submitting your form or you can upload via gmail to [roboticsandaileague@gmail.com](mailto:roboticsandaileague@gmail.com) with your school's name and other details required to identify your school or your team.

*To help us better understand your project and evaluate it effectively, please provide detailed information in the following areas:*

## **1. Robot Design or Concept Overview**

- **Description:** Please provide a brief but clear explanation of your robot's design or concept. This should include the purpose of the robot, its intended function or task in the competition, and any key features that make your robot unique. Describe how your robot solves the problem or challenges presented in the competition, and outline any special design decisions you've made to achieve its goals. Make sure to highlight the main objectives of your design in simple terms.

### **Example:**

Our robot is designed to autonomously sort recyclable materials using computer vision and a robotic arm. It employs AI-powered image recognition to identify different types of waste, such as plastic, metal, and paper. The robot's efficient conveyor system ensures rapid sorting, while its adaptive learning capabilities improve accuracy over time.

## **2. Robot Components**

- **Materials and Parts:** List the components and materials you used to build your robot. This could include physical materials such as metal, plastic, wood, or specific parts like motors, sensors, wheels, or structural elements. If there are any key components that play a significant role in the robot's functionality, such as advanced sensors, cameras, or AI modules, please specify them.
- Be sure to include any custom parts, if applicable, and explain why you chose certain materials or parts over others based on your design and functional requirements.

**Example:**

The robot uses lightweight aluminum for its frame to ensure durability without excess weight. It is equipped with ultrasonic sensors for obstacle detection and an infrared camera for line tracking. The wheels are rubberized to provide good traction for indoor environments.

### **3. Programming Language or Tools Used**

- **Technology and Software:** Describe the programming languages, software, and tools you used to develop the robot's functionality. Include any software platforms, IDEs (Integrated Development Environments), or libraries that were critical to your development process.
- If you used machine learning or AI, specify the frameworks (e.g., TensorFlow, PyTorch) and explain how they were integrated into your robot's system.

**Example:**

"We programmed the robot using Python.

For machine learning, we used TensorFlow to train the robot to recognize different obstacles and make autonomous decisions based on visual input."

- If you have any questions or need clarification, don't hesitate to reach out to us [support@roboticsandaileague.com](mailto:support@roboticsandaileague.com)
- More information will be passed to your team once you qualify for the next phase of the competition.

Good luck!