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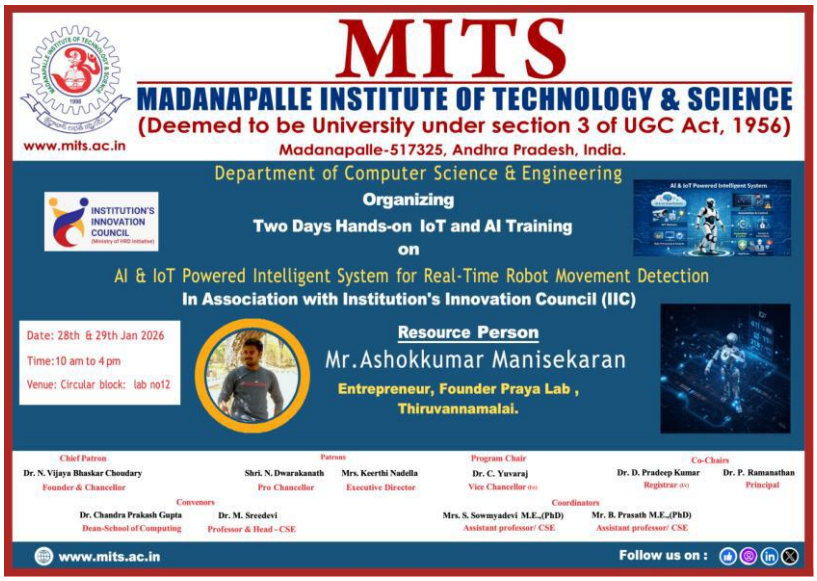
A Report on
"Two Days hands-on IoT and AI Training on AI & IoT Powered Intelligent System for Real-Time Robot Movement Detection"
Organized by **Department of Computer Science & Engineering**
In Association with IIC



Date: 28.1.2026 & 29.1.2026
Mode of Conduct: Offline
Venue: Lab 12 – Circular Block
Total Participants: 70

Report Submitted by:
Mrs. Sowmyadevi S & Mr.B. Prasath
Assistant Professor,
Department of Computer Science & Engineering

Event Overview

Title: Two Days Hands-on IoT and AI Training on *AI & IoT Powered Intelligent System for Real-Time Robot Movement Detection*

The **Two Days hands-on IoT and AI Training on "AI & IoT Powered Intelligent System for Real-Time Robot Movement Detection"** was successfully conducted. The program commenced at **10:00 AM** with a welcome address delivered by **Mrs. S. Sowmyadevi, M.E., (PhD), Assistant Professor, Department of CSE, MITS.Dr. M. Sreedevi, Head of the Department**, extended a warm welcome to the resource person and highlighted the importance of such workshops in building strong practical foundations in emerging technologies. She encouraged students to actively participate, learn new concepts, and explore innovation through hands-on experience. Following this, the session was handed over to **Mr. Ashok Kumar M.E.,** who guided the participants through an engaging, interactive, and practical training program.

Program Objective

The objective of the training was to help participants **design, build, and demonstrate an AI & IoT–enabled intelligent robotic system** using a **Funobotz paper-based Dog Bot**, where **real-time movement detection** triggers alerts and enables an automated robot response.

Training Use Case

A **mobile paper robot** detects movement using a **camera-based detection setup**. When movement is detected:

- A **buzzer sounds** (audio alert)
- An **LED flashes** (visual alert)
- The flashing light is sensed by an **LDR**
- The robot **automatically moves backward**

This use case demonstrates the complete pipeline of **real-time detection → alerting → intelligent response**.

Day 1 – Build and Understand the System

Focus: Understanding system flow and building a working robot with alert mechanisms.

Session 1: Introduction & System Thinking

Participants were introduced to the concept of an intelligent detection system and the real-time workflow of detection, alert, and automated response. The use case was discussed in detail, emphasizing how inputs, outputs, and decision flow interact in an intelligent IoT-enabled robot.

Session 2: Hardware Setup with Funobotz Paper Bot
Participants assembled the **Funobotz paper-based Dog Bot**, configured the motor setup for forward and backward movement, and learned how to mount the required sensors and indicators for an integrated robotic workflow.
Session 3: Sensor and Alert Integration
This session focused on integrating alert mechanisms such as the **buzzer** and **LED**, and understanding the **LDR** as a light-detection sensor. Participants learned basic threshold logic and how sensing and alerting are connected in an IoT response chain.
Session 4: Basic Control Logic
Participants implemented and tested simple control logic for LED ON/OFF, buzzer triggering, and motor movement. Each component was tested individually to ensure stable performance before integrating into a complete working system.
Day 2 – Intelligence, Automation and Demo
Focus: Adding detection logic and enabling the robot to respond automatically.
Session 5: Movement Detection Logic
Participants were introduced to camera-based movement detection, understanding how motion triggers events and how such events can be connected to alert actions.
Session 6: Automated Response Design
Participants implemented the automated response mechanism where LED flashing acts as a signal, the LDR detects the flash, and control logic drives the robot backward automatically. Delay handling and safety timing concepts were also discussed to ensure reliable execution.
Session 7: Real-Time Testing and Optimization
The complete system was tested live. Participants calibrated sensor thresholds, fine-tuned logic, and improved response accuracy through repeated trials and adjustments.
Session 8: Demonstration and Discussion
Teams demonstrated their working prototypes, explained the system workflow, and participated in discussions on real-world applications of intelligent detection systems. Suggestions for improvements and possible extensions were also shared.
Final Program Outcome
By the end of the training, participants were able to:

- Build a simple **AI & IoT powered intelligent system**
- Understand the logic of **real-time detection and automated response**
- Integrate sensors, alerts, and motors effectively
- Demonstrate a functional robot prototype
- Connect classroom learning to real-world intelligent systems and applications

The event concluded at **5:00 PM**, with participants sharing valuable feedback. Many participants expressed enthusiasm for the practical sessions and appreciated the resource person's engaging delivery style.

Event Highlights

- Resource person delivering the session

- Participants actively building an AI & IoT–enabled intelligent robotic system using the Funobotz paper-based Dog Bot

Vote of Thanks
The program ended with a Vote of Thanks delivered by **Mr. B. Prasath M.E.,(PhD).**, expressing gratitude to the resource person, participants, Head of the Department, Principal, and Management for their support and for making the event a grand success.
Key Advantage of the Program
A major advantage of this program is to enabling the participants to:

- Rebuild and modify the robot after training
- Practice independently
- Use the kit for projects, demonstrations, and competitions

Participants also received full access to the training content and gained meaningful hands-on experience throughout the sessions.
Key Outcomes Achieved
By the end of the training, participants achieved:

- A comprehensive understanding of AI & IoT–enabled intelligent robotic system concepts
- The ability to rebuild and modify the robot after training
- Practical skills best suited for skill development initiatives and innovation labs