RAMACHANDRA COLLEGE OF ENGINEERING
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Accreditations
NAAC A+
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ISO 9001 : 2015 Certified

Department of CSE–IoT (Internet of Things)

Event: - Two Days Workshop IoT Meets ML – Two-Day Hands-on Workshop 2026

Dates: 12th, 13th February 2026

Time: 10:00 AM

Venue: IoT Laboratory, Block A (IoT), RCEE College Campus

Resource Person*:* - Mr. CH Raviteja IoT, RevoIoT

Convenor: - Mr. Narendra Bavisetti, HOD – CSE (IoT, RACE)

Co coordinators:- Mr.J.praveenkumar and Ms. R.Jhansi and Ms.D.sujatha and Ms. Sirisha

Introduction

The "IoT Meets ML" workshop was designed to provide students with practical exposure to the integration of Internet of Things (IoT) and Machine Learning (ML). Organized by the Department of CSE (IoT) at Ramachandra College of Engineering, the program aimed to bridge the gap between theoretical knowledge and real-world applications.

Under the guidance of Resource Person Mr. CH Raviteja, students explored smart device connectivity, real-time data collection, model training, and intelligent decision-making systems. The workshop encouraged innovation, hands-on learning, and the development of industry-relevant skills in emerging technologies

Objectives of the Workshop

1. To provide fundamental understanding of Internet of Things (IoT) and Machine Learning (ML) concepts.

2. To demonstrate the integration of IoT devices with ML models for smart applications.
3. To offer hands-on experience in sensor interfacing, data collection, and real-time monitoring.
4. To train students in basic data preprocessing, model training, and performance evaluation.
5. To enhance problem-solving skills through practical experiments and mini-projects.
6. To encourage innovation and application-oriented learning in emerging technologies.
7. To prepare students for industry-level projects and future career opportunities in IoT and AI domains.

Workshop Details and Activities

The workshop was inaugurated on 12th September 2025 at 10:00 AM by **Mr. Narendra Bavisetti**, HOD–CSE (IoT, RACE) **, in the presence of faculty members and students. The resource person, **Mr.ch Ravi teja**, an AI & ML Developer from Sweya Information Technology, Vizag, was introduced and welcomed by the coordinators **Mr.J.praveenkumar** and **Ms.R.Jhansi Ms.D.sujatha** and **Ms. Sirisha**.

Day 1 – Introduction to IoT &Arduino Practical Sessions

The first day focused on building a strong foundation in Internet of Things (IoT) concepts along with hands-on practice using the Arduino UNO board.

- **Introduction to Working of Important Components (LED, Sensors, etc.)**
  Students were introduced to basic electronic components such as LEDs, resistors, buzzers, relays, IR sensors, and other commonly used sensors. Their working principles and real-time applications were explained.
- **LED/Buzzer/Relay Blink Using Arduino UNO Board**
  Participants interfaced LEDs, buzzers, and relays with the Arduino UNO and developed programs to make them blink or switch ON/OFF, understanding digital output operations.
- **Control Buzzer/LED/Relay through Serial Monitor Command**
  Students learned serial communication and controlled components dynamically using commands from the Arduino Serial Monitor.

- **Control LED/Buzzer/Relay through IR Sensor Using Arduino UNO Board**
  An IR sensor was used to detect objects and automatically trigger connected components, introducing automation concepts.
- **LCD Display Using Arduino UNO Board**
  Students interfaced an LCD display to show messages and sensor readings, enhancing their knowledge of data visualization in embedded systems.

Day 2 – Introduction to IoT &Arduino Practical Sessions

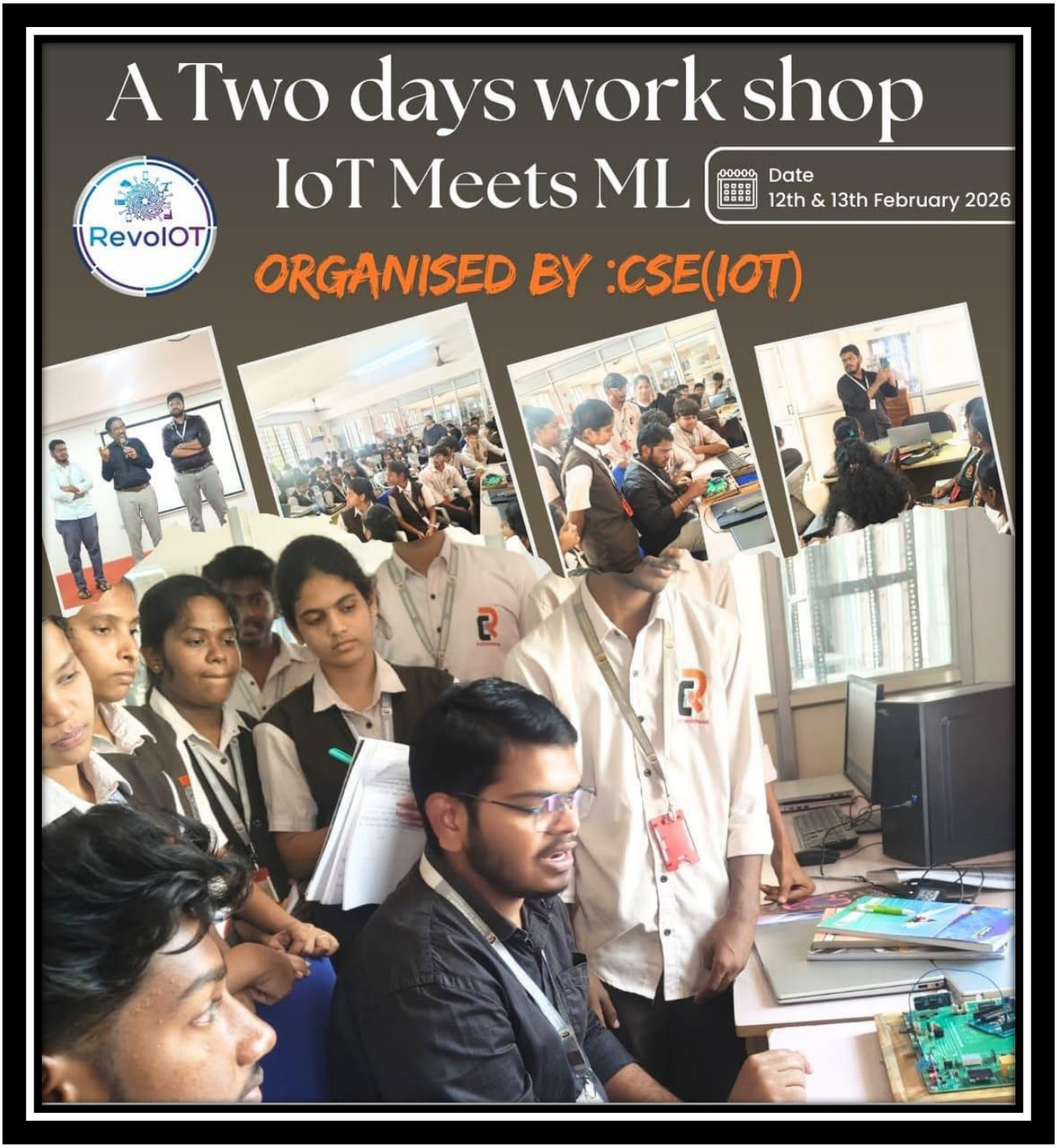
The second day focused on advanced IoT-based practical implementations using Arduino and sensors to build real-time smart applications.

- **Temperature Controlled Fan**
  Students implemented a system where a temperature sensor automatically controls a fan based on surrounding temperature conditions, demonstrating environmental monitoring and automated response.
- **Automatic Streetlight**
  Using an LDR sensor, participants designed a smart streetlight system that turns ON during low light (night) and OFF during daylight, showcasing energy-efficient automation.
- **Distance Measurement Using Ultrasonic Sensor with Arduino**
  Students interfaced an ultrasonic sensor to calculate the distance of nearby objects and displayed the measured values, understanding real-time sensing and calculation.
- **Automatic Watering System**
  a soil moisture sensor was used to detect soil dryness and automatically activate a water pump, introducing smart agriculture concepts.
- **Uploading DHT11 Data to Cloud Platform Using Arduino & Wi-Fi Module**
  Participants collected temperature and humidity data using the DHT11 sensor and transmitted the data to a cloud platform via a Wi-Fi module, learning IoT data communication and remote monitoring.

Outcomes and Learning

- Gained a strong foundation in Internet of Things (IoT) concepts and real-time applications.
- Acquired practical knowledge of interfacing sensors, actuators, and modules using the Arduino UNO board.
- Developed skills in writing and uploading embedded C programs through the Arduino IDE.
- Understood serial communication, sensor data acquisition, and hardware control mechanisms.

- Implemented automation projects such as temperature-controlled systems, automatic streetlights, smart watering systems, and distance measurement.
- Learned how to transmit real-time data (DHT11) to a cloud platform using a Wi-Fi module.
- Enhanced problem-solving, teamwork, and project development skills through hands-on activities



Feedback and Observations

The workshop received an overwhelmingly positive response from the participants. Students appreciated the well-structured sessions that combined theoretical explanations with hands-on practical implementation.
Participants found the real-time projects such as temperature-controlled fan, automatic streetlight, and cloud data uploading highly engaging and relevant to current industry trends. The interactive approach of the Resource Person, Mr. CH Raviteja, encouraged active participation, problem-solving, and teamwork.

Conclusion

The two-day "IoT Meets ML" workshop successfully provided students with comprehensive knowledge and practical exposure to Internet of Things (IoT) applications using the Arduino platform. Conducted at Ramachandra College of Engineering, the program effectively bridged the gap between theoretical concepts and real-time implementation.
Through hands-on sessions, live demonstrations, and cloud integration projects, students gained confidence in developing smart and automated systems for future academic projects, research, and industry-oriented careers in IoT and emerging technologies

Acknowledgement

The Department of CSE–IoT extends heartfelt gratitude to:
Dr. Muralidhar Rao, Principal, RCEE, for constant encouragement and support.
Mr. Narendra Bavisetti, HOD–CSE (IoT, RACE), for his guidance and motivation.
Mr. CH.Raviteja, Resource Person, for conducting an engaging and informative session.
All faculty coordinators and student volunteers for their teamwork and dedication.

HoD **Dean-Academic** **Principal**

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