KITECH

Knowledge & Innovation In Technology and Education

IOT & Robotics

NURTURE | UPGRADE | IGNITE

FEATURES OF PROGRAM

STUDY ONLINE

According to your availability

CERTIFICATIONS

Training completion certificate

BEGINNER FRIENDLY

No basic knowledge required

DOUBT CLEARING SESSIONS

Get Your Doubts Solved Fast

PROJECTS

Mini& Major projects

PLACEMENT GUIDANCE

Empowering Your Career

OUR MOTIVE

NURTURE

Guiding growth,inspiring futures

UPGRADE

Transfor Today upgrade for tomorrow

IGNITE

Ignite Ideas,Transform possibilites

ABOUT US

KI-TECH is an online education platform dedicated to providing students with exceptional learning opportunities and growth. Our mission is to address student’s needs and prepare them for success in their fields. With a wide range of programs and courses, we focus on delivering excellence through top-quality study materials and expert instructors, helping students achieve remarkable growth.

WHY IOT & Robotics 

- Automation: IoT and robotics enable efficient automation of tasks, reducing the need for human intervention.
- Data-driven insights: IoT devices collect real-time data that robots can process for optimized decision-making.
- Remote control: IoT allows for remote monitoring and control of robots over networks, enhancing flexibility.
- Enhanced precision: Robotics paired with IoT sensors improve precision and accuracy in operations.
- Cost reduction: Together, they minimize operational costs by increasing efficiency and reducing errors.

TRAINING OUTCOMES

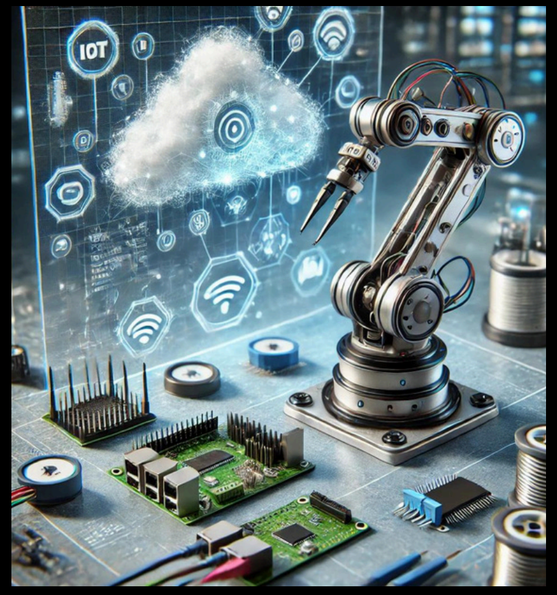
- Understanding IoT fundamentals: Grasp the basics of IoT architecture and components.
- Knowledge of sensors & actuators: Learn how sensors collect data and actuators respond in IoT systems.
- Connectivity & communication: Gain insights into network protocols and communication in IoT devices.
- Introduction to robotics: Learn key concepts of robotics systems and their interaction with IoT.
- Programming basics: Acquire basic programming skills for IoT and robotics integration.
- Hands-on with hardware: Experience working with IoT devices and simple robots.
- Problem-solving skills: Develop the ability to design and troubleshoot IoT and robotics systems.

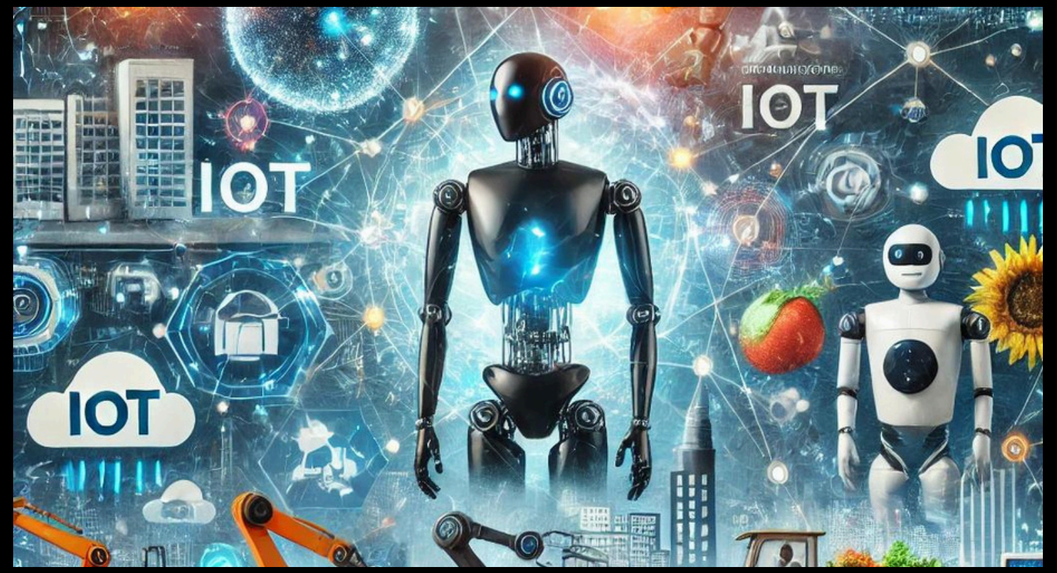
TRAINING PATH WAY

- Introduction to IoT & Robotics
- IoT Architecture & Components
- Networking & Communication Protocols
- Sensors & Actuators in IoT
- Microcontrollers & Embedded Systems
- IoT Data Analytics & Cloud Integration
- Robotics Fundamentals
- Robot Programming & Algorithms
- IoT Security & Privacy
- Automation & Control Systems
- Edge Computing in IoT & Robotics
- Project & Case Study Implementation

Module-I

- IoT and Robotics Overview
- Applications: Smart Homes, Healthcare, Agriculture, Manufacturing
- Industry Trends & Future Tech
- AI & Machine Learning in IoT and Robotics





Module-II

- MicrocontrollersArduino,Raspberry Pi.
- Basic programming (C/C++, Python).
- GPIO for sensors and actuators.
- Interfacing peripherals.

Module-III

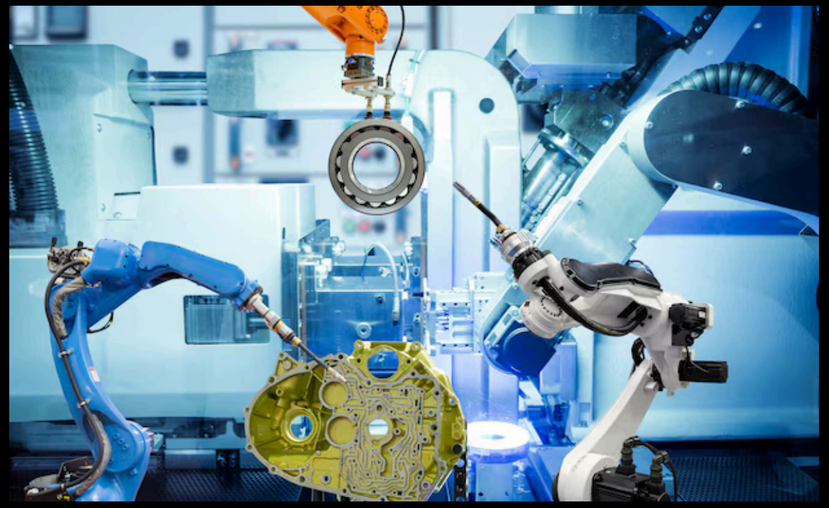
- Sensor types and functions.
- Actuator types (motors, servos).
- Integration with microcontrollers.

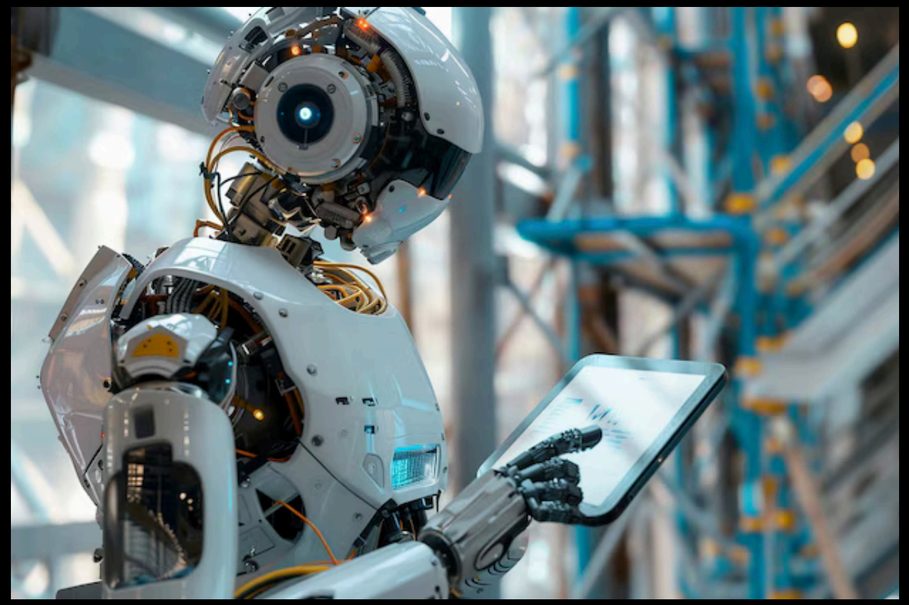
Module-IV

- IoT communication: Wi-Fi, Bluetooth, Zigbee.
- MQTT, HTTP, CoAP protocols.
- Device interconnectivity.

Module-V

- Cloud platforms (AWS IoT, Azure IoT).
- Cloud vs Edge computing.
- IoT-cloud communication.



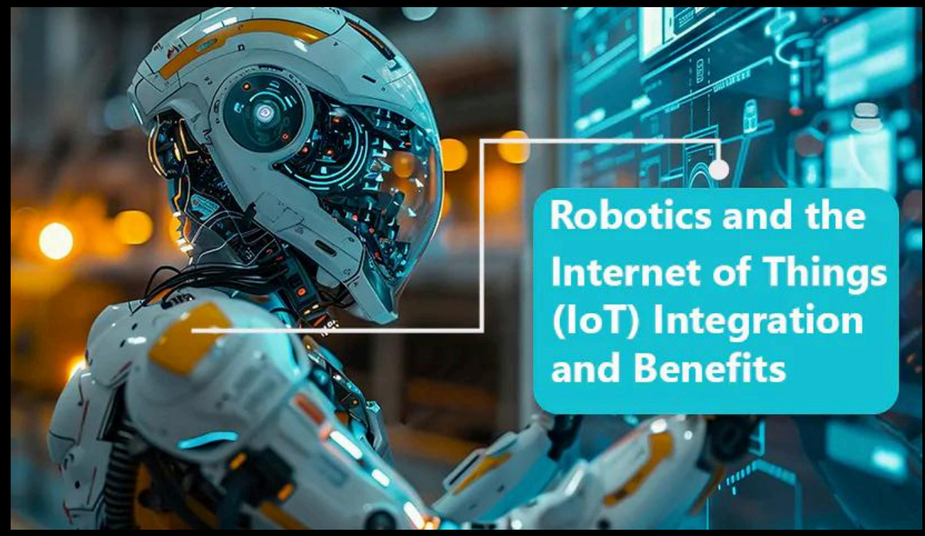


Module-VI

- Open-loop vs closed-loop control.
- PID controllers for motion.
- Motion planning algorithms.

Module-VII

- IoT security threats.
- Encryption techniques.
- Authentication methods.

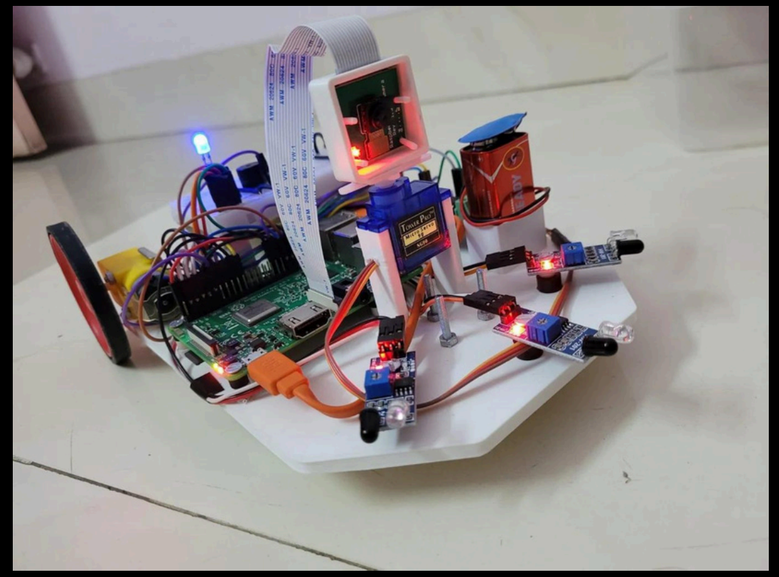


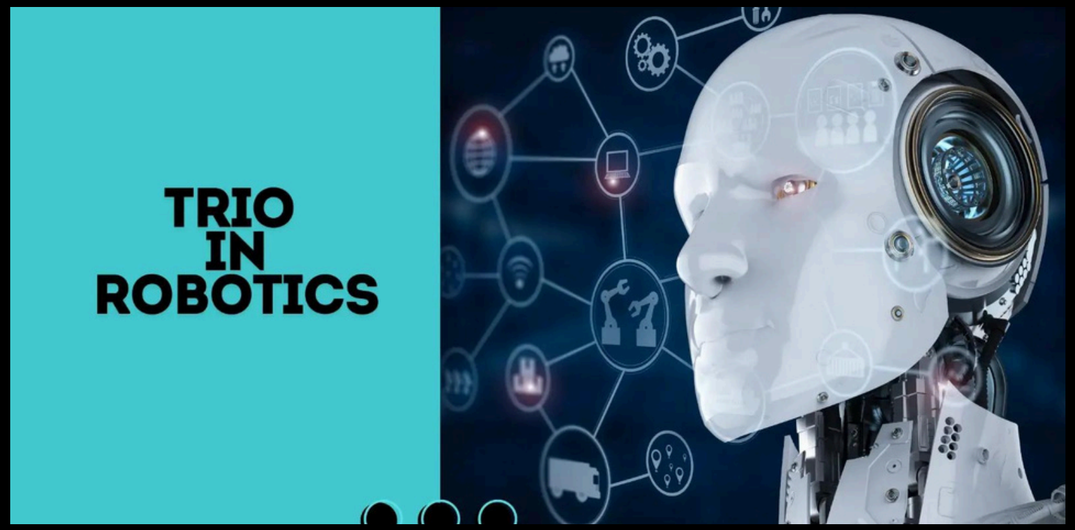
Module-VIII

- Types of mobile robots.
- Path planning and obstacle avoidance.
- Sensor-based navigation.

Module-IX

- AI and ML in robotics.
- ML for robotic control.
- Computer vision in robotics.





Module-X

- IIoT in automation.
- Predictive maintenance and tracking.
- Sensors in manufacturing.
- IIoT use cases.

Module-XI

- Autonomous robotics basics.
- Role of sensors and AI.
- Real-time decision algorithms.

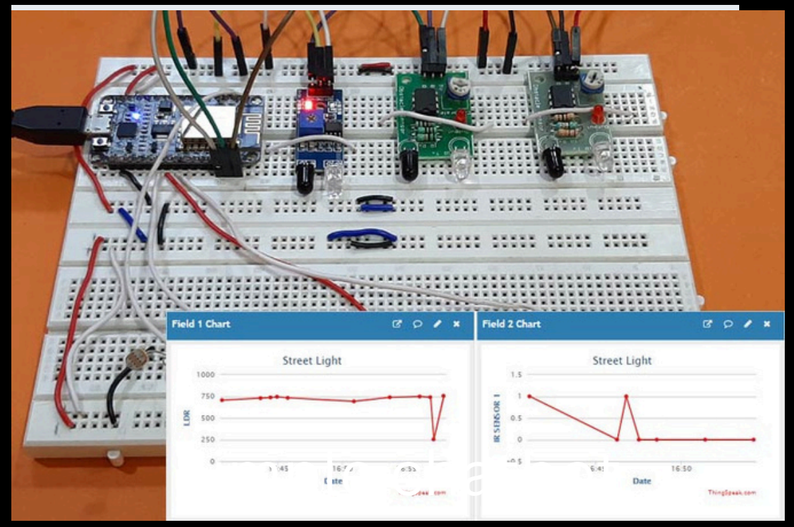
Module-XII

- IoT-robotics system design.
- Sensor-actuator-cloud integration.
- Real-time control and data collection.

Tools,Languages& softwares used

Sample Projects

- Smart Light Control
- Temperature Monitoring System
- Home Automation with Voice Control



CERTIFICATIONS

The importance of a KITECH (Knowledge and Innovation in Technology and Education) course completion certificate lies in its recognition of specialized skills and knowledge in technology and innovation.

An Internship Completion Certificate from KI-TECH (Knowledge and Innovation in Technology and Education) is an official document issued to individuals who successfully complete their internship program at KI-TECH. This certificate proves the practical experience gained and the skills acquired during the internship.