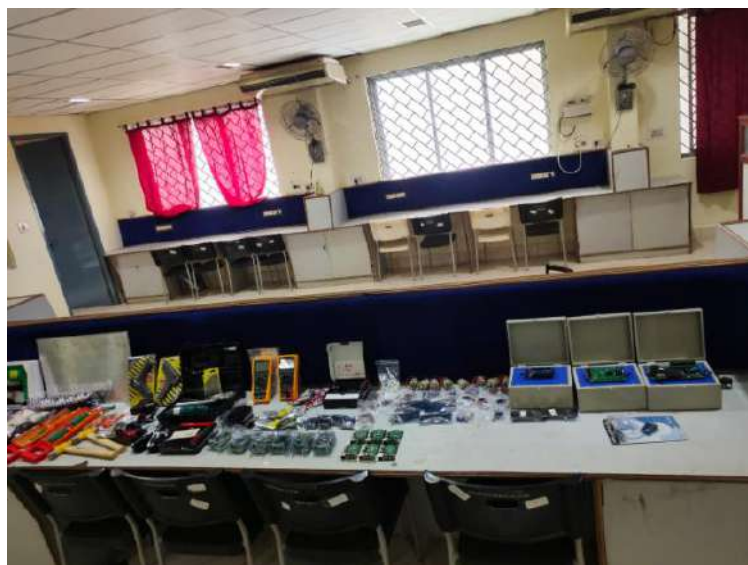# CENTRE OF EXCELLENCE IN ROBOTICS AND EMBEDDED SYSTEMS LAB IN ASSOCIATION WITH "E-YANTRA LAB SETUP INITIATIVE (E-LSI)" IIT BOMBAY

Embedded Solutions and Robotics Innovation – "An Exclusive Robotics Research Lab"

"E-Yantra (e-LSI) - Embedded System and Robotics Lab" is a premier destination for cutting-edge consultancy services in embedded systems and robotics. With an extensive array of components and a team of experienced faculty members, our robotics research lab is committed to providing comprehensive solutions tailored to certain specific needs in the field of robotics. This lab offers guidance on component selection, system architecture, and implementation strategies to ensure the success of embedded systems and robotics projects.

VISION

To be a leading force in the advancement of embedded systems and robotics, pioneering innovative solutions that shape the future of technology and drive positive change in society.

MISSION

To empower businesses and individuals with cutting-edge consultancy services and state-of-the-art resources in embedded systems and robotics. Through collaboration, expertise, and a commitment to excellence, we strive to deliver tailored solutions that exceed expectations, foster innovation, and create lasting value for the individual and communities.

LIST OF COMPONENTS

Development Boards

- AtMega2560
- LPC2140
- PB9V51RD2
- Raspberry Pi
- ESP8288
- ESP32
- Nucleo Boards (STM32)
- Tiva Launchpad
- Altera Cyclone IV FPGA DEO – Nano Kit

Additional Hardware

- Micro SD Card
- IC Sensors
- Zigbee Module with Adapter
- Gyro Sensor
- Servo Motor
- HD Webcam
- 2-Channel Relay Board (5 & 12 Volts)
- Motor Driver Module
- Quad Encoder Geared DC Motor

HIGHLIGHTS

Prototype Development

This lab with state-of-the-art facilities and components supports for exploring new functionalities or testing proof of concept to rapidly prototype your ideas/concepts.

Custom Solutions

Leveraging the experience and resources to develop custom solutions that meet the demanded unique specifications. From hardware design to software development, this lab works closely with the partner to deliver innovative solutions that drive any business ideas forward.

Training and Workshops

This lab Enhances team's skills and knowledge with various training and workshop programs. From basic concepts to advanced techniques, our experts faculty members offer hands-on training sessions to help any team to stay ahead in the field of embedded systems and robotics.

WHY TO CHOOSE US?

Expertise

Our team of seasoned professional faculty members brings years of experience in embedded systems and robotics, ensuring the success of any inducted projects.

Diverse Component Portfolio

With an extensive range of components, including development boards, sensors, motors, and more, we offer the flexibility to tackle projects of any complexity.
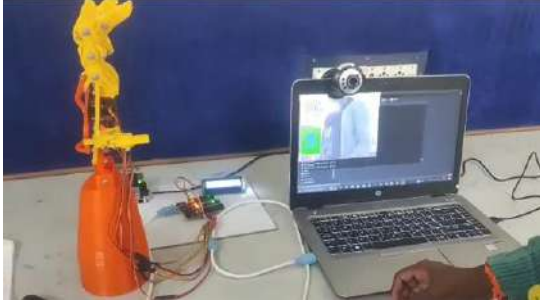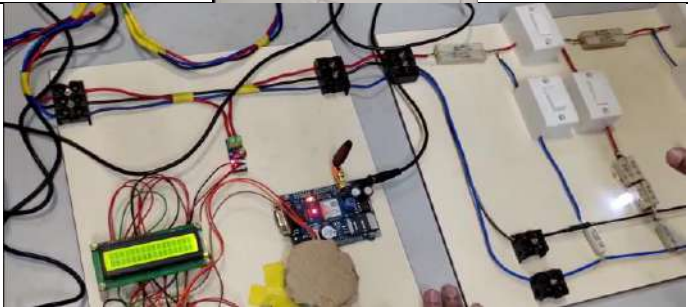
Tailored Solutions

We understand that every project is unique. That's why we work closely with you to develop customized solutions that address your specific requirements and objectives.

Commitment to Quality

Quality is ingrained in everything we do. From component selection to final implementation, we adhere to the highest standards of craftsmanship and reliability.

PROJECT DEVELOPED

S.No	Title of the Project	Project Image
1	Artificial Intelligence Based 3D - Printed PLA Material Based Prosthetic Hand Control With Image Processing and Gesture Technology	
2	Artificial Intelligence Based Autonomous Ware House Management Robot integrated with 3D - Printed PLA Material Based 5 Axis	
3	Automatic Drug Dispenser Robot with Servo and 3D - Printed PLA Material Based Dispenser Mechanism	
4	Artificial Intelligence Based Emotion Based Teaching Tool for Kids with Autism Integrated with None-Invasive Therapy and Audio-Based Feedback System	
5	Design and development of fire extinguisher robot using IOT	

6	Bore-Well Rescue Robot	
7	Centralized Monitoring System for Street light Fault detection and location tracking	

NAME OF THE FACULTY	AREA OF SPECIALIZATION
Dr.L.K.Hema	Wireless Sensor Network, IoT, Hardware Security
Mr.V.Prabhakaran	Embedded Systems, Nanotechnology, Image Processing
Mr.R.Karthikeyan	VLSI, Robotics & Embedded System
Ms.Sandhiya	Image & Signal Processing