

A workshop on "**Autonomous Robotics**" (14 Hours) presented by **nvision 2012** - IIT, Hyderabad in association with i3indya Technologies.

INTRODUCTION

Robotics, computer-controlled machine that is programmed to move, manipulate objects, and accomplish work while interacting with its environment. Robots are able to perform repetitive tasks more **quickly, cheaply, and accurately** than humans.

Perhaps the most dramatic changes in future robots will arise from their increasing ability to reason. The field of artificial intelligence is moving rapidly from university laboratories to practical application in industry, and machines are being developed that can perform cognitive tasks, such as strategic planning and learning from experience. Increasingly, diagnosis of failures in aircraft or satellites, the management of a battlefield, or the control of a large factory will be performed by intelligent computers.

About Workshop

This workshop will provide college students a base to **robotics**. They will learn the **Automation technology** and get better understanding and grip on its application. They will be developing their own models by their own hands. These projects focus on the application and use of technology rather than their internal working so that a person can grasp the concepts well.

A live speaker and instructor are available to answer questions during this 2 day workshop. Let a trained professional show you how to play with the robots. Upon completion attendees will get a certificate of participation from i3indya Technologies.

TOPICS TO BE COVERED

- Introduction to Robotics
- Embedded System
- Introduction to **Micro controller**
- Motors and their control
- Sensors
- **Introduction to Embedded C**

Note : These are just the major aspects that we will be discussing, each point will be elaborated in detail with demonstrations of the tools and techniques.

PROJECTS TO BE COVERED

- Sensor Interfacing and calibration
- Autonomous Obstacle avoidance Robot
- **Autonomous Line follower Robot (LFR)**
- **Autonomous Object follower Robot**

Prerequisite for Workshop

- Passion to learn new creative things.
- Knowledge of basic chips and micro controllers.
- Having basic knowledge of Computers.

Who Could Attend ?

- College students seeking future in Robotics.
- Education Faculty & Staff in robotics field.
- Electronics, Instrumentation & Communications Students.
- Students from any branch can attend the workshop.

Workshop Highlights

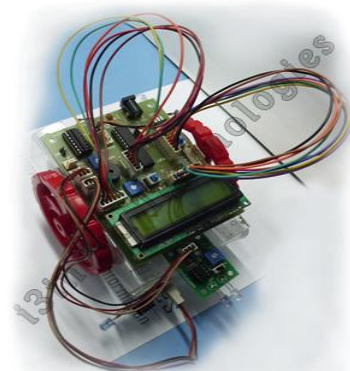
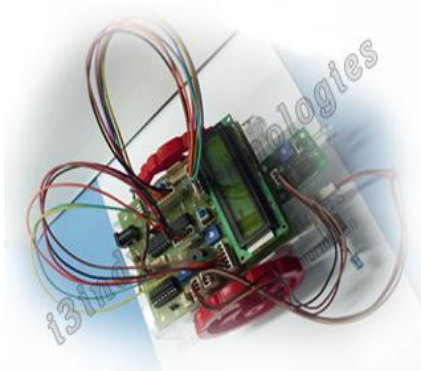
- Learn & Interact with renowned Industry Experts.
- Receive an unparalleled education on the art of robotics with personal one-on-one attention.
- Learn to make five types of Robots in 2 days.
- Covers all the basics of Robotics.
- Printed material developed by well established Industry experts.
- Hands on Demonstrations of **Latest Robotics Techniques & Tools**.
- Power Point Presentation, Live Demos, Interactive Question & Answer sessions and comprehensive reading material.

Benefits to the Participants

- **Certificate of participation** would be awarded to each participant by i3indya Technologies.
- **Free Software Toolkit CD** (Containing E-Books, Software, Video's, Tutorials)
- 1 Take Away Robotic Kit will be provided to all the groups (each having 2 students).
- i3indya **Summer / Winter** Training Redemption Coupon (**10% discount**)

ROBOTIC KIT CONTENT

- Microcontroller Development board.
- USB ASP Programmer.
- IR Sensor (Dual).
- DC Motors.
- Chassis.
- Wheels
- DC Adapter
- Screw Driver
- Screw packet
- C.D



Workshop: <u>Robo-O-Mania 2.0</u> (Autonomous Robotics)
Venue: IIT Hyderabad Campus
Date: 6-7 October, 2012
Fee: Rs. 2600 (team of 2)
Coordinators : Chandirasekaran : 07799658282 Sahil : 09177474417 Abhishek : 09177472041