

TECHNOLOGY LEARNING CENTER

..Finishing School for Engineer's

Workshop on Image processing



The objective of this workshop is to introduce the participants to the world of Digital Image Processing and give an insight on how and where they can use it. The workshop is to show that the image is really data, to illustrate what can be done with those data, and the ease with which they can be compromised. It includes what constitutes a digital image, what goes into acquiring good images and concepts associated with digital images. These include such topics as pixels, resolution, over-saturation, colour space, image format, bit depth, and image processing filters and also capturing image from a webcam and then processing it to find region of Interest in it. They will work on projects like facial recognition system and Steganography.



info@tlcindia.org

www.tlcindia.org



+91-9581100283/284

TECHNOLOGY LEARNING CENTER

..Finishing School for Engineer's

Workshop Schedule:

DAY 1

session 1

- Introduction to LabVIEW
- Introduction to Image
- what is Image?
- Difference between Image and Picture?
- Types of Images?
- Calculate Image memory size?
- Types of Image formats
- Introduction to Image Processing
- Need of Image Processing
- Introduction to NI VISION
- Controls Palette
- Functions Palette

Session 2

- How to open Images in LabVIEW
- Using IMAQ Functions



info@tlcindia.org

www.tlcindia.org



+91-9581100283/284

TECHNOLOGY LEARNING CENTER

..Finishing School for Engineer's

- using Graphic options
- Acquiring Image Information Using IMAQ Functions
- Acquiring Image properties from Clipboard
- Setting Image Size and Multiply Image Size
- Changing Image Formats and saving to files
- Converting Image to Array
- Rotate Image and Reverse Image using Conversion Functions



DAY 2

Session 3

- Removing Noise from the Images
- Writing Text on Images
- Image Overlapping
- Pattern matching
- Patter matching using Cam

Session 4

- Stenography Project



info@tlcindia.org

www.tlcindia.org



+91-9581100283/284

TECHNOLOGY LEARNING CENTER

..Finishing School for Engineer's

Workshop highlights

- Target and optimize 8 bit microcontrollers by using Embedded C
- Use internal peripherals of a microcontroller such as Timers, Interrupts and UART
- Create and manage designs by using the Avr studio software design environment
- Interface external peripherals such as motor driver, keypad, LCD etc
- Exposures to the different software's required for building an embedded systems.

Benefits of the participants

- **Certificate of Participation** to all Participants from Technology Learning Center
- **Free Softcopy of workshop content**
- Technology Learning Center summer Training Redemption Coupon

Our Requirement for the program:

- Minimum of 50 teams for conducting the workshop
- One Computer CD-ROM drive for each team or students are requested to get their laptop preferably with Windows OS.
- LCD projector and microphone PA system.
- Seminar hall or computer lab for conducting the workshop.

Workshop Duration:

- 2 Days [7 Hours/Day]

Pre-requisites:

The modules are designed in order to cater the basics of Robotics and coding however following pre-requisites will be an added advantage.

- Basic knowledge of signals and systems.
- Basic signaling techniques.



info@tlcindia.org

www.tlcindia.org



+91-9581100283/284