



“This is Computer age next will be Robotic era”

WORKSHOP ON X-MATDIP “MATLAB & DIGITAL IMAGE PROCESSING”
ThinkWare conceptualized practical based module in Digital Image Processing toolbox using MATLAB Software. This provides them a good platform to learn the concept and implement in various projects.

ThinkWare: Technology & Innovation Kiosk

Shepherding-Intelligent-Tomorrow

ThinkWare is a venture which deals in the domain of Robotics, Embedded Systems & MATLAB with strategically current focus in educational domain to bridge the gap between Industry demands & current academics offerings in Institutes. With a passion in Robotics and keeping constant eye on various national & international events, we have vast experience in the same and a constant focus in this grooming industry. **ThinkWare** was founded by a strong team of young Engineers & budding Entrepreneurs working in the same industry, and is currently incubated at STEP-ITBI, JSSATE Noida. The company is properly backed by the experienced academicians and Industries.

X-MATDIP “xpert in MATLAB & Digital Image Processing”

Course Description: -

Visual information plays an important role in almost all areas of our life. Today, much of this information is represented and processed digitally. Digital image processing is ubiquitous, with applications ranging from television to tomography, from photography to printing, from robotics to remote sensing.

This is a graduate-level introductory course to the fundamentals of digital image processing. It will emphasize on general principles of image processing, rather than specific applications. I expect to cover topics such as image acquisition and display, properties of the human visual system, color representations, sampling and quantization, point operations, linear image filtering and correlation, transforms and subband decompositions, Image Compression and nonlinear filtering, contrast and color enhancement, dithering, and image restoration, image registration, and simple feature extraction and recognition tasks.

Lectures will be complemented by computer exercises where students will develop their own image processing algorithms.

Course Summary

This course presents the theory and practice of digital image processing with Matlab. Numerous examples and practical hands-on exercises are included in the course. One major topic of image processing is covered in every lecture, typically consists of a discussion of the basic theoretical concepts and some examples illustrating practical imaging problems. Lectures will provide a practical learning experience.

Features of Workshop:

- Certificate of participation will be given to each participant.
- Free 30 days 8051 e-learning course on Thinkware.com worth Rs. 1500/-
- Free access to INDIA’s best Robotics forum “RoBoFreaks” at Thinkware where students can publish their projects & will be acknowledged.
- Study material & Thinkware CD will be given to each student.
- Lifetime membership account on www.thinkware.com to avail all discounts in future.

Course Content:

Introduction to MATLAB

- How to open, quit and work on command window
- Discussing about important command used in command window
- Work space

- Command history
- How to use HELP and WEB HELP
- Some important matrix operations
- Introduction to some operators
- Introduction to M-file editor
- Editing and debugging M-files
- Basic plotting functions
- Creating plot
- Editing plot

Image Processing Toolbox

Images in Matlab:

- Types of images
- Image Arithmetic
- Coordinate Systems
- Displaying images etc.

Spatial Transformation:

- Interpolation
- Resizing
- Rotation
- Cropping
- Image Sequences
- Image arithmetic
- Reading and writing image data
- Displaying and exploring images
- Spatial transformations(Resizing, Rotating, Cropping)

Linear Filtering:

- Convolution
- Correlation
- Filter Design

Morphological Operations:

- Dilation
- Erosion
- Closing & opening
- Reconstruction
- Feature measurement

Analyzing and Enhancing Images:

- Pixel values & Statistics
- Image Analysis
- Image Enhancement

Region-Based Processing:

- Filtering
- Filling

Color:

- Conversion to different color spaces.

Course Duration:

- The training will be of 2 days (16 hours)

Requirements from college:

- Infrastructure as classroom with proper seating arrangement for participants.
- LCD Projector for the lecture.
- Lodging & Boarding facility for the trainer during workshop.
- Computers for the programming depending on no. of participants
- Minimum participation of 60 students.

Contact:

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