



PRODUCT NAME : 7 Days Machine Vision with Matlab Distance Learning Kit

PRICE : Rs 4,900.00
SKU : RM1195



DESCRIPTION

OVERVIEW:

This Program mainly focuses on the Individuals eager to learn machine vision with matlab from Basic through Distance Education. They will get the chance to expand their knowledge in the field of Designing, Operation, and Application of machine vision with matlab with real time hand on practical experience. The duration of this module is 7 days. After completion of the Learning Section the Individual have to give examination on any working day within 3 Months, prior he/she has to lock the Examination Date within 2 days of completion of Learning Section. On successful completion of the Program Individual will be provided with Certificate of Distance Learning Program certified by Robosapiens Technologies Pvt. Ltd.

- 1. Duration: 7 Days
- 2. Best Suited For: Individual Eager to Machine Vision with Matlab*
- 3. Fees: 4900/- (Including Courier Charge)
- 4. Project: 21 Experiments cum Projects
- 5. Training Kit: Robosapiens DLK (For details view KIT Tab)
- 6. Delivery: DLK will be delivered to you in 5 working days after receiving your payment
- 7. Examination: You can give exam on any working day within 3 Months #
- 8. Certification: DLC from Robosapiens Technologies Pvt. Ltd.

Course:

Day 1:

Introduction to Matlab

- Matlab Environment
- OPEN and WORK with Matlab
- Command's in Command Window
- Workspace
- Command History

Introduction To Matrix

- Matrix Command
- Matrix Operators
- Creating a M-File
- Debugging of M-File
- Plotting Function's

Example 1:Plotting of sine wave.

Example 2:Plotting of sine and cos wave

Example 3:Plotting of 4X4 matrix

Day 2:

Introduction To Image Processing Toolbox

- Semiconductor Memories
- Types of Images
- Image Arithmetic
- Displaying Images
- Basic Image Related Function's
- Spatial Transformation
- Resizing and Roating
- Image Cropping
- Noise and Filter

- Dilation and Erosion
- Edge Detection

Example 4:Showing of Image

Example 5:Colormapping of Image

Example 6:Resizing of Image

Example 7:Rotating of Image

Example 8:Cropping of Image

Day 3:

Introduction to Robotics

- Three Laws Of Robotics
- Components Of Robotic Systems
- Types Of Robots
- Future Of Robotics

Introduction to Basic of Electronics

- Charge
- Voltage
- Batteries
- Types Of Components
- Introduction To Digital Electronics

Introduction To Embedded Systems

- Introduction To Computer Architecture
- Introduction To Microprocessors
- Introduction To Microcontroller
- Introduction To Avr Microcontrollers
- Introduction To Avr Atmega16
- Pin Out Diagram Of Atmega16
- Pin Descriptions

- I/O Ports Of Atmega16

Day 4:

Installation of Software and Debugging

- Robosapiens Boot Flasher
- Installation Of Softwares
- Installation Steps Of Winavr
- Installation Steps Of Avr Studio 4.0
- How To Work With Avr Studio 4
- Writing your First 'Embedded C' Program in AVR Studio
- Program Compilation and Debugging
- Loading Compiled 'C' Program into Microcontroller using Robosapiens 'AVR BOOTFlasher v1.0 Beta'
- Types Of Motors
- Controlling Circuit
- DC Motor Interfacing With Atmega8

Example 9:LEDs Blinking

Example 10:Dancing Led Pattern

Example 11:Curtain led Effect

Example 12:Counter on LEDs

Project 1:LEDs ON and OFF

Project 2:Sand Glass Filling of LED

Project 3:Decoration of LED Patterns

Project 4:DC Motor Driving

Day 5:

Introduction To LCD Display

- Liquid Crystal Display (LCD'S)
- 16 X 2 Lcd Display
- Pin Diagram Of 16x2 LCD
- Important Commands Codes For LCD

Project 5: Display Text on LCD

Project 6: Blinking Text on LCD

Day 6:

Introduction To USART

- Type of Communication
- Different type of Communication Protocol
- Interface of PC to Microcontroller
- Baud Rate generation
- Serial Data Communication And Parallel Data Communication
- Use of TTL

Project 7: Data Transfer using Serial Communication

Day 7:

Introduction to Image Acquisition Toolbox

- Know Video Adaptor
- Capture & storing real time data
- Graphical User inter Face (GUI)
- Open and run the GUIDE simple (GUI)

Project 8: Show the text with Matlab

Project 9: Object Detection

Project Covered:

- Plotting of sine-wave
- Plotting of sine and cos wave

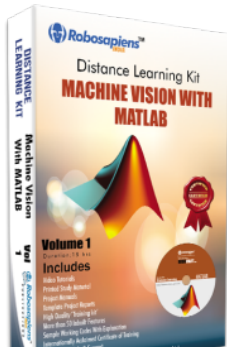
- Plotting of 4X4 matrix/li>
- Showing of Image
- Colormapping of Image
- Resizing of Image
- Rotating of Image
- Cropping of Image
- LEDs Blinking
- Dancing Led Pattern
- Curtain led Effect
- Counter on LEDs
- LEDs ON and OFF
- Sand Glass Filling of LED
- Decoration of LED Patterns
- DC Motor Driving
- Display Text on LCD
- Blinking Text on LCD
- Transfer using Serial Communication
- Show the text with Matlab
- Object Detection

Kit Content:

- Booklet with step by step Instructions
- Tool Kit CD
- Robosapiens Atmega16 mini Robotics Development Board V4.0
- ATmega16 with inbuilt Robosapiens Bootloader
- USB Connector Cable
- High Quality Plastic Chassis Board
- Screw driver
- Ball Caster wheel
- Robosapiens TTL
- 16x2 LCD
- Support Studs
- 4X Single pin Female to Female Jumper wire
- 8 pin Female to Female Jumper wire
- 2X 4pin Female to Female Jumper wire
- 1 Pair wheel 76mm Diameter
- 1 Pair D.C Plastic gear motors

- Other required Tools and accessories etc

ADDITIONAL IMAGES



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1 Pair Wheel



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Robosapiens Atmega16 Mini Robotics Development Board V4.0



ROBOMART.com™

4 pin Female to Female Jumper wire

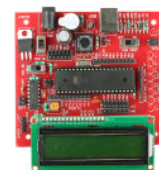


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CHASSIS BOARD



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8 Pin Female To Female Jumper Wire



ROBOMART.com™

1 Pair D.C Plastic gear motors



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Screw Driver



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Support Studs



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Single pin Female to Female Jumper wire



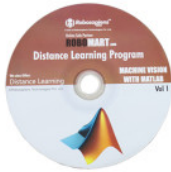
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Robosapiens TTL



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Tool Kit CD



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USB CONNECTOR CABLE



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Caster Wheel



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