

## Topics Covered

Parametric approach to Linear regression (Maximum Likelihood Estimation, Least square estimation) Regularization technique, Bayes technique, Kernel smoothing and Gaussian process technique, Dimensionality reduction techniques: Principal Component Analysis, Linear Discriminant Analysis, Kernel Linear Discriminant Analysis and Independent Component Analysis, Probabilistic discriminative model: Perceptron, Multiple class Logistic regression, Support Vector Machine Probabilistic generative model: Gaussian Mixture Model (Combinational model), Generative Model: Hidden Markov Model, Artificial Neural Network Introduction to Deep learning techniques: Convolution Neural Network, Auto encoder, Generative Adversarial Network, Graph Neural Network, Long Short Term Memory, Recurrent Neural Network, Particle Swarm Optimization, Ant colony Optimization.

## Target Audience:

UG, PG, Scholars, Faculty from Engineering colleges and universities and participants from Industry. Participants are strongly encouraged to have Matlab software installed in their system to execute the code described during the illustration session.

# ONLINE Workshop on Machine Learning, Deep learning and Computational intelligence (with Illustrations using MATLAB)

## Module 1: 'MDCWC 2022'

30th May to 10th June 2022 (Duration: 6.00 to 9.00 P.M.)

### About the course:

The course aims on strengthening the mathematical foundations involved in wireless communication, machine learning, deep learning and computational intelligence using illustrations using Matlab. Evening classes are offered to facilitate working professionals. Participants will also get the chance to get the paper published in the Machine Learning for wireless Communication with Simulation Illustrations, Signals and Communication Technology series, springer publications, Co-Edited by the event Co-ordinator [Link](#)(Papers will be subjected to regular Review process). Guest sessions on the state-to-the-art techniques will also be handled by Foreign and Indian experts on the related topics.

Course contents will be based on the book authored/edited by the co-ordinator: Pattern Recognition And Computational Intelligence Techniques Using Matlab ([Link](#)).

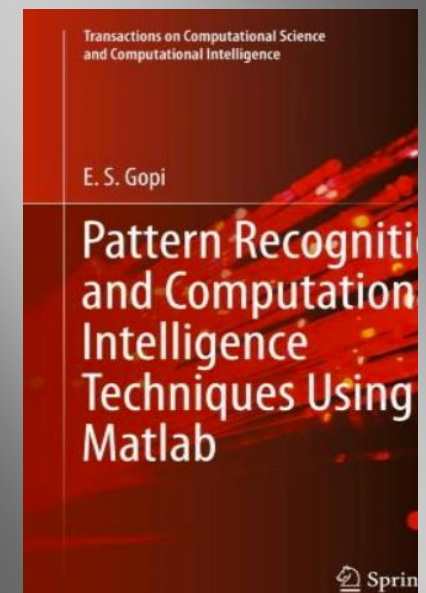
Co-ordinator: Dr. E.S. Gopi, Associate professor, Department of ECE

Link to website: [MDCWC2022](#)

Last date for registration: **30th April 2022**(First Come First Served)

Maximum number of Registration = 30

Online portal: Webex (Link will be shared for the registered participants)



	Category	Module 1 (Including GST)
Registration fee	UG,PG, Research scholars and Faculty	₹6000
	Industry participants	₹ 8000

## Tentative Schedule

30th May 6.00 to 6.30 P.M.	Introduction to the workshop
30th May 6.30 to 9.00 P.M.	Parametric approach to Linear regression (Maximum Likelihood Estimation, Least square estimation) Regularization technique
31st May	Linear regression (continued): Bayes technique ,Kernel smoothing Gaussian process technique
1st June and 2nd June	Illustrations on Linear regression
3rd June	Dimensionality reduction techniques: Principal Component Analysis, Linear Discriminant Analysis , Kernel Linear Discriminant Analysis, Independent Component Analysis
6th June	Probabilistic discriminative model: Perceptron, Multiple class Logistic regression, Support Vector Machine Probabilistic generative model: Gaussian Mixture Model (Combinational model)
7th June	Illustrations of Classification techniques
8th June	Generative Model: Hidden Markov Model Artificial Neural Network
9th June	illustrations of Hidden Markov Model and Artificial Neural Network
10th June	Introduction to Deep learning techniques: Convolution Neural Network, Auto-encoder Generative Adversarial Network, Graph Neural Network, Long Short Term Memory, Recurrent Neural Network, Particle Swarm Optimization, Ant colony Optimization

## Registration Details:

Step 1: Registration needs to done through SBI i-collect: [Link for payment](#) →  
 Step2: Fill the Google form ([Link for Registration](#) ) (Don't forget to upload the receipt generated from SBI i-collect in the Google form)  
 Step3: You will get an acknowledgement from mdcwc2022@gmail.com for final confirmation of the registration process.

### Supporting team:

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1) Academia module I or II: Proceed->Select: State: Tamil Nadu, Institution: EducationalInstitutions->Select: CONFERENCE AND WORKSHOP NIT TRICHY- >MDCWC2022 ACADEMIA MODULE I or II.  
 2) Industry module I or II: Proceed->Select: State: Tamil Nadu, Institution: EducationalInstitutions->Select: CONFERENCE AND WORKSHOP NIT TRICHY- >MDCWC2022 INDUSTRY MODULE I or II

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