



Electronics & ICT Academy  
NIT Warangal

# FACULTY DEVELOPMENT PROGRAMME (FDP) ON Machine Learning and Artificial Intelligence for Solving Digital Signal and Image Processing Problems

(21<sup>st</sup> – 30<sup>th</sup> June, 2021)

Organized by

**E & ICT Academy, NIT Warangal**

in association with

*Department of Electronics and Communication Engineering*

**Dr. Mahalingam College of Engineering and Technology, Pollachi- 642 003**

**(An Autonomous Institution, Affiliated to Anna University, Chennai)**

**(Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)**

## Preamble:

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy's role is to offer Faculty Development Programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

## About FDP:

The Faculty Development Program aims to familiarize participants with AI-powered Image Processing and Signal Processing techniques for solving real world problems. Signal processing has undergone a paradigm shift in the deep learning/machine learning era, whether it is Speech, Image, or Video Processing. This course will focus on introducing the broad domain of Machine Learning from the perspective of Signal Processing, especially security-related considerations. Deep Learning models, with their multi-level structures, can extract complex information from input images. Various deep learning frameworks, libraries, and data sets related to image classification and segmentation will be discussed. Special emphasis will be given to open source tools that help to solve image processing problems with machine learning.

## Major Course Contents:

- Introduction to Linear algebra
- Supervised vs. Unsupervised Machine Learning
- How ML Pipelines work
- Introduction to Python
- Regression
- Bayesian learning, decision tree based classification methods
- Support vector machine classification and application
- Density-based clustering
- Principal Component Analysis
- PCA in SystemML
- Fourier Transform in SystemML
- Wavelets and Machine Learning
- Hands on to implementation of Image data processing and analysis
- Reinforcement Learning, Optimization and Data driven Methods

## Faculty conducting this programme:

The programme will be conducted by the faculty members from NIT Warangal; Academicians in the concerned field from IITs/NITs/IIITs are invited to deliver lectures in the programme. Speakers from industries are also expected to deliver as part of the course.

## Registration Fee Particulars:

Faculty and Research Scholars	₹ 750/-
Industry Participants	₹ 2250/-



Participants need to pay the Registration Fee Online using the following details

Online Transfer Details
<b>Account Name: Electronics &amp; ICT Academy NITW</b>
<b>Account No: 62423775910</b>
<b>IFSC: SBIN0020149</b>
<b>Bank and Branch: State Bank of India, NIT (REC), Warangal</b>

## How to apply:

Participants are required to fill the online registration form by clicking on the following link:

<https://forms.gle/iV27ESSzPNkzg7478>

## Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 60 (sixty). Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the DD will be sent back. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

## Important dates:

<b>Last date (Application &amp; DD)</b>	<b>18/06/2021</b>
<b>Selection List by E- mail</b>	<b>19/06/2021</b>
<b>Duration</b>	<b>21/06/2021 to 30/06/2021</b>

## About NIT Warangal:

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D programmes in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

## About Dr. MCET:

Dr. Mahalingam College of Engineering and Technology (MCET) was established in the year of 1998 by Dr. M. MANICKAM with a view to the commemorate the 75 birth day of his beloved father Arutchelvar Dr. N. MAHALINGAM with a mission to impart high quality competency based education in Engineering & Technology to the younger generation with the required skills and abilities to face the challenging needs of the industry around the globe. MCET is a self-financing, co-educational Autonomous Engineering College and it is approved by All India Council for Technical Education (AICTE), New Delhi & affiliated to Anna University, Chennai. The Institution has been accredited by the National Assessment and Accreditation Council (NAAC), with A++ Grade. MCET currently offers 9 UG and 6 PG courses and 5 Doctoral programmes in Engineering and Technology. Seven UG Programmes are accredited with Tier-1 by NBA.



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1. Name :
2. Designation :
3. Institution :
4. Email :
5. Mobile No. :

6. Reference No	:	
Amount	:	
Date	:	

7. Address for Communication :
8. Educational Qualification :
9. Subjects taught so far :
10. No. of refresher courses/workshops attended :
11. Experience (in years) :  
Teaching:            Research:            Industry:
12. Do you belong to SC/ST : YES/NO

(If yes, please specify and attach a copy of caste certificate to claim the concession)

**Declaration**

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the Coordinator in case, I am unable to attend the course.

Date: \_\_\_\_\_ Signature of the Applicant

**SPONSORSHIP CERTIFICATE**

Dr. /Mr. /Ms. .... is an employee of our Institute/Organization and is hereby sponsored to participate in the FDP on **“Machine Learning and Artificial Intelligence for Solving Digital Signal and Image Processing Problems”**, sponsored by Electronics & ICT Academy during **21<sup>st</sup> – 30<sup>th</sup> June, 2021** at NIT Warangal.

**Signature of Head of Institution  
(with seal)**

**Address for correspondence**

Post your application form

**Dr. R. SUDHAKAR**

Professor and Head  
Department of ECE  
Dr. Mahalingam College of Engineering & Technology  
Pollachi, Coimbatore – 642003  
Tamil Nadu, INDIA

It is requested to all the delegates, after completion of application form, all the payment details, screenshot of the payment and scanned application form has to be uploaded in the following online registration link.

**Registration Link:** <https://forms.gle/iV27ESSzPNkzg7478>

For more details about Electronics & ICT Academy, NIT, Warangal, please visit: <https://nitw.ac.in/eict>

**For more enquiries please contact:**

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**Coordinators**

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