



# Faculty Development Programme (FDP) On Computer Vision and Image Processing (CVIP)

Organized by  
**Electronics & ICT Academy, NITW and  
Department of Electronics and Communication and Engineering  
CMR Technical Campus, Hyderabad  
(4<sup>th</sup> December – 9<sup>th</sup> December 2017)**



## Preamble:

“Electronics & ICT Academy” is being set up at NIT Warangal with financial assistance from DeitY, MCIT, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka States and Pudicherry, Andaman & Nicobar islands and Lakshadweep UTs. This academy 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.

Computer Vision tries to do what a human brain does with the retinal data that means understanding the scene based on image data. That mainly involves segmentation, recognition and reconstruction (3D) and these works together to give us the scene understanding. Computer Vision employs image Processing and Machine learning as well as some of the other mathematical methods to do the mentioned tasks. However, Image processing, is mainly focused on processing raw images without giving any knowledge feedback on them. For example if you want to do a semantic image segmentation (A computer vision task) you might apply some filtering on the image during the process (an image processing task) or try to recognize the objects in the scene (a machine learning task).

This FDP aims at providing strong theoretical background along with practical experience in the field of CV&IP and how the visualization and analysis of the images could be efficiently done with the help of image processing tools. In the growing and emerging era of “Digital India” initiative, the use of digital image processing becomes pertinent in the Image Processing area since several applications of the images determine and contribute towards socio-economic status of the regions and the country as whole. The image processing tools would be delivered by eminent resource persons of image processing experts.

## Major Course Contents:

1. Fundamental of IP (in spatial and Frequency domain).
2. Object Tracking
3. PSO assisted Kalaman Filtering for object Tracking.
4. Image Processing in Big Data.
5. Digital Image Filtering
6. Segmentation and Object Localization.
7. Classical to soft computing Approaches.
8. Detection of temporal discontinuities in video sequences.
9. Deep Neural Networks for detection of temporal discontinuities.
10. Hardware Design accepts for machine learning algorithms.
11. Hardware implementation of face recognition system
12. Installation of Hadoop, SPARK clusters and integrating them with MATLAB for text and Image Processing
13. Hands-on Experiences.

## 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.

**Eligibility:** The programme is open to the *teachers of engineering colleges, MCA colleges and other allied disciplines* in Telangana, Andhra Pradesh, Karnataka states and Pudicherry, Andaman and Nicobar islands, Lakshadweep UTs.

Industry personnel working in the concerned/allied discipline can also attend.

## Registration Fee Particulars:

**Faculty members (Rs 2500/- Only) ,  
SC/ST Faculty members:1250 /-only and  
Industry participants (Rs 6000/-Only)**

The participants need to send a crossed demand draft(DD) drawn in favour of “Director, NIT Warangal” and payable at SBH, NIT Warangal branch.

## On-line Mode:

Account Name: **Electronics & ICT Academy NITW**

Account No: **62423775910**

IFSC Code: **SBIN0020149**

## Accommodation:

All the selected participants will be provided FREE boarding & lodging in the institute College Hostel. No TA will be paid for the participants.

## How to apply:

A filled in form of application in the prescribed format duly signed and sponsored by appropriate authorities (along with demand draft) should reach the coordinator by speed-post. It is also mandatory to send scanned application form and demand draft through e-mail to [ravikumar@nitw.ac.in](mailto:ravikumar@nitw.ac.in) as selection will be intimated only through mail.

## Selection Criteria:

Selection will be done based on *first-cum-first-serve basis* and the confirmed candidates will be notified immediately. The maximum number of participants will be **50 (fifty)**. Additionally 10 participants from industry are allowed to participate. The list of selected participants will be notified in the institute web site [www.nitw.ac.in](http://www.nitw.ac.in) and also will be sent to their personal e-mail ids. In case a candidate is not selected, the demand draft will be sent back. A test will be conducted at the end of the course. Candidates will be issued certificates on successful completion of the course along with grade. Reservations are followed for selecting candidates as per GOI norms.

## Important dates:

**Last date for submission of application:25.11.2017**

**Selection-list intimation/display before:28.11.2017**

## About the Institutes:

CMR Technical Campus has been structured to take a quantum leap on the changing trends of technology. The Campus is accredited by NBA in the year 2014. The need of setting up the college emerged when no other college could fulfill to the aspirations of a student in his/her endeavor to acquire wholesome education. The very strength of CMR Technical Campus lies in its principles of providing the right learning environment for the student who does not have to compromise throughout the learning process of becoming global citizen. Over the years since it has been established, there has been dynamic progress at CMRTC in all academic and research activities, and a spectacular improvement in facilities and infrastructure, to keep it on par with the best institutions in India. The campus epitomizes the Technical Campus motto, "Learning and Exploring" in providing the best of infrastructure and ambience. CMR Technical Campus keeps abreast of the global situation.

National Institute of Technology (formerly Regional Engineering College), 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 Institution imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering and M.Tech. and Ph.D. programs in various specializations.

# CMR Technical Campus, Hyderabad & NIT Warangal

Electronics and ICT Academy  
Faculty Development Programme  
on

## Computer Vision and Image Processing (CVIP)

(4<sup>th</sup> Dec – 9<sup>th</sup> Dec 2017)

### SPONSORSHIP CERTIFICATE

1. Name:

Dr/Mr/Ms. ....

2. Designation:

..... is

3. Institution:

an employee of our Institute/Organization and is hereby

4. Email:

sponsored to participate in the FDP on **Computer**

5. DD No:

Bank:

Date:

**Vision & Image Processing** sponsored by

6. Address for Correspondence

**Electronics & ICT Academy** during 4<sup>th</sup> Dec – 9<sup>th</sup> Dec

2017 at CMR Technical Campus, Hyderabad, *Electronics*

& *ICT Academy*, National Institute of Technology,

Warangal.

7. Educational Qualifications with specialization:

Place:

8. Subjects taught so far:

Date:

9. No. of refresher courses/workshops attended:

Signature of Head of Institution

(with seal)

10. Experience (in years)

Teaching:

Research:

Industry:

### Address for correspondence

*Post your application form with DD to*

**Prof.G.Srikanth**

Professor & Head, ECED

CMR Technical Campus, Hyderabad.-501401,

Telangana State, India.

11. Accommodation required: YES / NO

12. Are you belong to SC/ST: YES/NO

*Mail the scanned copies of filled-in and duly signed application form with DD to*

[srikanth.cmrtc@gmail.com](mailto:srikanth.cmrtc@gmail.com)

For more information visit: <http://nitw.ac.in/eict/>

### 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.

Place:

Date: Signature of the applicant

For any enquiry contact:

Mobile: 0 8332969363,9248727226

Land line: 0870-2462444

### Coordinator

**Dr. J.Ravi Kumar**

Organized by

**Electronics & ICT Academy and**

**Department of E&CE**

**NATIONAL INSTITUTE OF TECHNOLOGY**

**WARANGAL – 506 004 (Telangana State)**

### Coordinator

**Prof.G.Srikanth**

**Coordinator,DIAP**

**Head ,ECED**

**CMR Technical Campus, Hyderabad.**

**phone:+919248727226**

**mail:srikanth.cmrtc@gmail.com**