



# ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP) ON



## Machine Learning and Computer Vision for Image Analysis Applications

(11<sup>th</sup> March– 21<sup>st</sup> March 2024)

Organised by

**Electronics & ICT Academy, NIT Warangal**

In Association With

**Department of Electronics and Communication Engineering**

**Ballari Institute of Technology & Management, Ballari, Karnataka**

**(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 the FDP:

This FDP aims at providing strong theoretical background along with practical experience in the field of computer vision and medical imaging applications and how the visualization and analysis of the images could be efficiently done with the help of computer vision and medical image analysis-based algorithms. In the growing and emerging era of "Digital India" initiative, the use of computer vision becomes pertinent in the machine vision and medical imaging area since several applications of the images determine and contribute towards socio-economic status of the regions and the country as whole. The computer vision and medical imaging-based methods would be delivered by eminent resource persons of CV and Medical Imaging experts. This FDP aims to impart knowledge and train on fundamentals of engineering aspects of AI and insights in recent computer vision medical image analysis applications using AI. FDP will be helpful for the faculties and researchers working in the areas of AI/ML for computer vision and medical image analysis applications.

### Major Course Contents:

- Introduction to Computer Vision and Medical image analysis applications.
- Machine Learning Basics, Working with data pre-processing and data visualization.
- Supervised and unsupervised learning methods, SVM classification, neural networks and applications.
- Introduction to Deep learning methods, and DL based other Architectures and its applications.
- CNN Architectures for CV and medical imaging implementation.
- Video analytics, Object detection/Tracking, segmentation, Yolo models, RCNN, Unet and FRCNN.
- Biometrics detection, Human activity and face recognition.
- Medical image data processing and analysis.
- AI/ML for Biomedical imaging, CT scan/MRI based image analysis, and medical image classifications.
- Basics of Tensor Flow/Keras/PyTorch/Jupyter and Colab.
- Working with data pre-processing and data visualization using python/MATLAB.
- Hands-on session using Python/MATLAB.
- CV and AI algorithms implementation on Hardware platform like Jetson Nano, TX2 etc.

### 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:

<b>Faculty and Research Scholars</b>	<b>Rs.1000/-</b>
<b>Industry Participants</b>	<b>Rs.2250/-</b>

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

Online Transfer Details	
Account Name:	<b>Electronics &amp; ICT Academy NITW</b>
Account No:	<b>62423775910</b>
IFSC:	<b>SBIN0020149</b>
Bank and Branch:	<b>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/wZiC3p6d68pT6RJU6>

### 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>08.03.2024</b>
<b>Selection List by E- mail</b>	<b>09.03.2024</b>
<b>Duration</b>	<b>11.03.2024 to 21.03.2024</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 BITM BALLARI:

Ballari Institute of Technology and Management established in the year 1997 with an aim of imparting quality technical education to the students of this region. The institute's USP is its excellent student-teacher rapport and a student centric learning to give shape to the student's overall outlook. The campus, spread over 11 acres of greenery, with eco-friendly surroundings, has facilities that are class apart, combining aesthetics with modernity. Department of Electronics and Communication Engineering established in the year 1997, has well-qualified, committed faculty members and has steadily grown from its humble beginning to a full-fledged department. It has well-equipped laboratories, VTU recognized Research centre, and infrastructure. The department facilitates faculty to work as a team update their knowledge and develop skills to match the industrial and technological requirements.



# ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)



## Machine Learning and Computer Vision for Image Analysis Applications (11<sup>th</sup> March– 21<sup>st</sup> March 2024)

Organised by

**Electronics & ICT Academy, NIT Warangal**

In Association With

Department of Electronics and Communication Engineering

**Ballari Institute of Technology & Management, Ballari, Karnataka**

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

1. Name :

2. Designation :

3. Institution :

4. Email :

5. Mobile No. :

6.

Reference No:
Amount:
Bank :
Date:

7. Address for Correspondence:

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

### 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 Computer Vision for Image Analysis Applications”**, sponsored by **Electronics & ICT Academy** during **11th March– 21st March 2024** at BITM, Ballari Department of ECE, Ballari, Karnataka.

Signature of Head of Institution  
(with seal)

### Address for correspondence

**Dr. Abdul Lateef Haroon P S,**

Associate Professor, Dept. of ECE  
Ballari Institute of Technology & Management,  
Ballari, Karnataka– 583104(Karnataka)

**Mobile: +919738973034**

**Email: [abdul.lh@bitm.edu.in](mailto:abdul.lh@bitm.edu.in)**

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:

For more details about Electronics & ICT Academy, NIT, Warangal, please visit:

<https://nitw.ac.in/eic>

### For more enquiries please contact:

**Dr.Md. Farukh Hashmi**

**Assistant Professor, ECE Dept.**  
**NIT Warangal-506004 (T.S.), India**

**Mobile: +919666740604, +916303817285**

**Email: [mdfarukh@nitw.ac.in](mailto:mdfarukh@nitw.ac.in)**

## Coordinators

**Dr. Md. Farukh Hashmi**

Department of ECE  
National Institute of Technology  
Warangal – 506 004 (Telangana State)  
Email: [mdfarukh@nitw.ac.in](mailto:mdfarukh@nitw.ac.in)  
Ph. No: 9666740604, 6303817285

**Dr. Abdul Lateef Haroon P S**

Associate Professor, Dept. of ECE  
Ballari Institute of Technology & Management,  
Ballari – 583104(Karnataka)  
Email: [abdul.lh@bitm.edu.in](mailto:abdul.lh@bitm.edu.in)  
Ph.No: +919738973034