

## About Electronics & ICT Academy at PDPM IIITDM Jabalpur

The Ministry of Electronics and Information Technology (MeitY), Government of India has instituted Electronics and ICT Academies in the year 2015. In the second phase, the academy at PDPM IIITDM Jabalpur aims at scalable training programmes in niche areas of Electronics and ICT for the development of the required knowledge base, skills and tools to unleash the talent of the Indian population. In addition to the faculty development programmes (FDPs) on fundamental and advanced topics in electronics, information and communication technologies, the Academy conducts customized training programmes for students, corporate sectors and research promotion workshops in emerging areas. The Academy is identified by the MeitY as the central hub of activities on training, internships, research, and consultancy programmes.

### About PDPM IIITDM Jabalpur

PDPM IIITDM Jabalpur was established in 2005 with a focus on education and research in IT-enabled Design and Manufacturing. Since its inception, PDPM IIITDM Jabalpur has been playing a vital role in producing quality human resources for contribution to India's mission of inclusive and sustainable growth. The Institute offers undergraduate, postgraduate and PhD programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Design and PhD programmes in Mathematics, Physics and Literature. Further, the Institute offers an undergraduate programme in Smart Manufacturing. Under IIT act, the Institute has been declared as an Institute of National Importance. The Institute campus is developed on 250 acres of land close to Dumna Airport, Jabalpur. The Institute is 10 kms from the main railway station and 5.5 kms from Dumna Airport, Jabalpur.

## Faculty Development Programme

### Deep Learning with Generative AI for Computer Vision

The course is designed to provide fundamental knowledge of deep learning and emerging research areas with an emphasis on generative modeling for computer vision applications. The purpose is to equip teachers of higher and technical education with the skill set required to train students on emerging artificial intelligence (AI) with hands-on experience in training and building their own AI models for different applications.

**Who can attend:** The Programme is open to faculty from all colleges, universities, and technical and professional institutes. Students, fresh graduates, researchers, and industry personnel working in allied disciplines can also attend.

### Important Dates:

**Last Date of Online Registration: Nov 05, 2024**

**FDP Dates: November 8-19, 2024**

**Coordinators:**

**Prof. Aparajita Ojha and Prof. Pritee Khanna,**

**Computer Science and Engineering**

**PDPM IIITDM Jabalpur**

**Contact us:**

[academy@iiitdmj.ac.in](mailto:academy@iiitdmj.ac.in), [eict@iiitdmj.ac.in](mailto:eict@iiitdmj.ac.in)

**Ms A Pandey, Managing Associate: 7999863597**

## Faculty Development Programme

### Deep Learning with Generative AI for Computer Vision

**November 8-19, 2024 (online mode)**



### Electronics and ICT Academy, Phase II



*An Initiative of  
Ministry of Electronics and Information Technology,  
Government of India*



**PDPM Indian Institute of Information Technology,  
Design and Manufacturing, Jabalpur**

**Dumna Airport Road, Jabalpur 482005**

# Faculty Development Programme Deep Learning with Generative AI for Computer Vision

November 8-19, 2024 (online mode)

## RESOURCE PERSONS

- Dr Vinit Jakhetiya, IIT Jammu
- Dr. Santosh Kumar Viparthi, IIT Ropar
- Dr. Prashant Patil, IIT Guwahati
- Dr. Shiv Ram Dubey, IIIT Allahabad
- Dr Nidhi Gupta, NIT Kurukshetra
- Dr Samir Jain, alfaTKG
- Dr Poornima Singh Thakur, alfaTKG
- Dr. Mohan Karnati, NIT Raipur
- Ms Shubhangi Chaturvedi, PDPM IIITDM Jabalpur
- Prof. Pritee Khanna, PDPM IIITDM Jabalpur
- Prof. Aparajita Ojha, PDPM IIITDM Jabalpur

## COURSE COORDINATORS

Prof. Aparajita Ojha, Professor, CSE  
PDPM IIITDM Jabalpur  
Email: [aojha@iiitdmj.ac.in](mailto:aojha@iiitdmj.ac.in)  
Phone: +91-761-2794221  
Mobile: +91-9425800334

Prof. Pritee Khanna, Professor, CSE,  
PDPM IIITDM Jabalpur  
Email: [pkhanna@iiitdmj.ac.in](mailto:pkhanna@iiitdmj.ac.in)  
Phone: +91-761-2794222  
Mobile: +91-9425324241

## Course Contents

- Evolution of AI and deep learning
- Basics of deep learning: Artificial neural network.
- Convolutional neural networks, standard networks.
- Vision transformers for classification problems.
- Autoencoder: Types and their applications.
- Explainability of deep learning models.
- Generative AI in Computer vision.
- Deepfake detection models.
- Applications of deep learning models in image and video quality assessment, underwater image enhancement, and image and video restoration.

## Hands-On Sessions

- Python programming, Pytorch, Keras, Google Colab.
- Neural networks for classification and regression problems.
- Convolutional neural networks for plant disease classification, use of attention mechanism.
- Transfer learning for medical image segmentation.
- Using a vision transformer based classifier for fire-smoke identification.
- Explainability methods for deep learning models.
- Deepfake detection models
- GAN training for data augmentation.

## Programme Features

- Fundamentals of deep learning and Generative AI.
- Opportunities to connect with experts in the field.
- Instructor-led rigorous hands-on sessions with online (live streaming) sessions.
- Certificate on successful completion with full access to the course material.

## Registration Details

- Registration link – Please fill out registration using the following link:  
<https://forms.gle/aeZ86AeJkw3nE8cu8>
- Registration fee: 500/- INR
- Last Date for Registration: **November 5, 2024**

## Online Payment Details

- **Internet banking**

Beneficiary Name	PDPM IIITDM Jabalpur
Bank Name	INDIAN BANK
A/C No.	50302042708
IFSC Code	IDIB000M694

- **UPI ID: [iiitdmj@indianbk](mailto:iiitdmj@indianbk)**

