



An Initiative of Ministry of Electronics & Information Technology (MeitY) Government of India

A Faculty Development Program

On **Image Processing and Pattern Recognition**

20/1/2025 to 25/1/2025

Under the aegis of **Electronics & ICT Academy IIT Roorkee**
In the collaboration with

In the collaboration with **GIET University, Gunupur (Hub)**
and **Ajay Binay Institute of Technology Cuttack (Spoke)**

Prerequisites

No experience is required, but fundamental knowledge of any programming language would be helpful.

Course Features

- 40 Hours of Lectures, Hands-on & Pedagogy/ Industry sessions
- Lectures from Expert Speakers, Hands-on from industry/Academia experts
- Access to learning material and video lectures
- Certificate by E&ICT Academy IIT Roorkee

Why this course?

The Faculty Development Program aims to provide faculty members and researchers with a comprehensive understanding of Image Processing and Pattern Recognition techniques, emphasizing theoretical concepts, practical applications, and the use of modern tools and algorithms.

Objectives of the course

- To provide participants with a solid foundation in the core concepts of image processing and pattern recognition.
- To explore advanced topics like feature extraction, dimensionality reduction, and classification methods for solving real-world problems.
- To facilitate knowledge sharing and collaboration among faculty members from various disciplines, promoting interdisciplinary approaches.
- To provide insights into the latest advancements, such as deep learning-based image analysis, generative adversarial networks (GANs), and real-time image processing.

Focus Areas

- Overview of Digital Image Processing: Concepts, types of images, and basic image structures
- Image Representation: Pixels, resolution, and color spaces (RGB, grayscale, HSV)
- Basic Image Operations: Image loading, display, and basic transformations
- Image Enhancement Techniques: Contrast adjustment, histogram equalization, and filtering
- Image Transformation Methods: Fourier Transform, Discrete Cosine Transform, and Wavelet Transform
- Edge Detection: Sobel, Prewitt, Canny, and other edge-detection algorithms

Who Should Register?

Any Interested Faculty/PhD-Scholars UG/PG/ & Industry Persons can register.

These FDPs can be considered in alignment with other Quality Improvement Programs (QIP) as well as NBA and NAAC for recognition/credit.

Registration Fee

Fees: ₹ 250/participant, non-refundable (Applicable for all)
 Note: Refund will be done in case of course cancellation only, within 20 working days
 How to make Payment: <https://eict.iitr.ac.in/instruction-for-payment/>
 Conference Code: EICTIITR-FDP-25-02

Registration Link: <https://forms.gle/2oCqioujLWuST76n8>

Accommodation

Accommodation on a sharing basis will be provided based on the availability of guest rooms on a paid basis.

Accommodation charge: (INR 1200/day/person)
Contact - sibofromgiet@giet.edu (9437234031) for booking

Principal Investigator

Prof. Sanjeev Manhas, ECE Department, IIT Roorkee

Course Coordinators

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