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. The Academy is identified by the MeitY as a hub of activities for capacity building through training, internships, research, and consultancy programmes in fundamental and advanced topics in electronics, information and communication technologies, the Academy conducts customized academic programmes for students, corporate sectors and researchers.

About ABV-IIITM Gwalior

Atal Bihari Vajpayee - Indian Institute of Information Technology and Management (ABV-IIITM) in Gwalior, Madhya Pradesh is an autonomous institute set by Government of India, MHRD (Presently Ministry of Education, Govt. of India) in 1997. It is an effort by MHRD (Presently Ministry of Education, Govt. of India) towards creating professionals in areas of management and information technology from the same institute.

This institute was created for facilitating higher education, research, and consultancy in areas of information technology (IT) and business management.

Online Faculty Development Programme
On
Reliable Artificial Intelligence Applications for Autonomous Systems

The Department of Computer Science and Engineering is offering this course to equip participants with a comprehensive understanding of how deep learning techniques are applied to develop and enhance autonomous systems across various industries. Through a combination of theory, hands-on projects, and case studies, participants will explore core deep learning models, algorithms, and frameworks specifically tailored for autonomy in systems such as self-driving vehicles, drones, medical imaging and robotics. By the end of the course, participants will be able to design, train, and implement deep learning models that enable perception, decision-making, and control functions essential to autonomous operations. This course aims to empower learners to innovate and address real-world challenges in autonomous technology using state-of-the-art deep learning methodologies.

Who can attend: Faculty and Ph.D. Scholars

Important Dates:

Last Date of Online Registration: 07th April 2025
FDP Dates: 12th – 18th April 2025

Online Faculty Development Programme
On
Reliable Artificial Intelligence Applications for Autonomous Systems

Jointly Organized by
ABV-IIITM Gwalior

विश्वजीवनामृतं ज्ञानम्

and
Electronics and ICT Academy IIITDM Jabalpur

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

Faculty Development Programme
On
Reliable Artificial Intelligence Applications for Autonomous Systems
12th – 18th April 2025 (online mode)

Resource Persons

Faculties from various IITs, IIITs, NITs and Industry experts shall deliver lectures and hands-on.

Coordinators

- Dr. D. K. Dewangan, CSE, ABV-IIITM Gwalior (9669734590, deepakd@iiitm.ac.in)
- Dr. V. Tiwari, CSE, ABV-IIITM Gwalior (9630246099, vivektiwari@iiitm.ac.in)
- Prof. Vijay Kumar Gupta, IIITDM, Jabalpur (7612794413, vkgupta@iiitdmj.ac.in)

Course Contents

- Overview of autonomous systems: self-driving cars, drones, robotics
- Role of AI and deep learning in autonomy
- Basics of neural networks (perceptrons, activation functions, loss functions)
- Types of deep learning architectures: CNNs, RNNs, and transformers
- Training techniques and optimization
- Image processing techniques and feature extraction
- Convolutional Neural Networks (CNNs) for image recognition
- Object detection and segmentation (YOLO, Faster R-CNN basics)
- Introduction to sensors in autonomous systems: LiDAR, radar, cameras

Hands-On Sessions

Training a Basic Neural Network for Autonomous Perception, Image Processing for Autonomous Vision, Object Detection & Segmentation (YOLO, Faster R-CNN), Implementing CNNs for Image Recognition, Sensor Fusion for Reliable Perception (LiDAR, Radar, Camera), AI-Based Anomaly Detection System, Real-Time Anomaly Detection in Autonomous Systems and so on. This hands-on session will consider implementation mostly through Python programming language and requires GPU facility like Google Colab platform.

Theory and Lab: 40 hours

Programme Features

- Rigorous training for theoretical and practical knowledge
- Opportunities to connect with experts in the field.
- Instructor-led rigorous hands-on sessions
- E-Certificate on successful completion will be provided to the participants.
- Mode of the course: **Online**
- Timing: 12th – 18th April 2025
- Morning Session (09:00 AM – 01:15 PM)
- Evening Session (02:30 PM – 05:45 PM)

Registration Details

Who can Attend: Faculty and Research Scholars (Ph. D.)

- Registration link – Please fill out registration using the following link: https://forms.gle/gxYQ9UGT48kVKgGp6
- Registration fee: 500/-
- Last Date for Registration: 07th April 2025
- Seats Limited to 50* only (* On first come first serve basis)

Online Payment Details

- **Registration Fee payment should be made to [ABV-IIITM Gwalior]**

Beneficiary Name	ABV IIITM FDP Account
Bank Name	Bank of India
A/C No.	945210110009380
IFSC Code	BKID0009462
Bank Address and Branch	IIITM Branch, Gwalior

- **UPI ID: boim-945263969380@boi**
- **QR Code:**