Electronics & ICT Academy
IIT Roorkee

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

सत्यमेव जयते

Joint Faculty Development Program

on

Biometrics Security in the Generative AI Era

Two - Week Joint Faculty Development Programme
In association with

Mar 01 – Mar 12, 2025
08:00 – 10:00 AM & 05:00 – 07:00 PM
Everyday

Register Before: Feb 14 , 2025

Mode of Delivery is Online

About E&ICT Academy

Electronics and ICT Academy is an initiative of Ministry of Electronics & Information Technology (MeitY), Govt. of India for conducting various Faculty/ Research Scholar Development Programme. Academy has planned short-term training programs on fundamental and advanced topics in IT, Electronics & Communication, Product Design, and Manufacturing with hands-on training and project work using the latest software tools and systems. In addition, the Academy will conduct specialized/customized training programs and research promotion workshops for corporate sector & educational institutions.

Prerequisites

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

Objectives of the course

- Introduce biometric systems and evaluation techniques.
- Explore machine learning and deep learning models for biometric recognition.
- Understand the impact of Generative AI (GANs, Variational Autoencoders) on biometric security.
- Learn biometric template protection techniques and AI-based countermeasures.
- Explore Vision Transformers and Explainable AI in biometric recognition.
- Address privacy, security, and ethical issues in biometric systems.
- Provide hands-on experience in biometric authentication and deepfake detection.

Focus Areas

- Introduction to Biometric Systems and Biometric System Evaluation
- Machine Learning and Deep Learning Models in Biometric Recognition
- Impact of Generative AI on Biometric Security
- Variational Autoencoders, GANs, and Deepfake Generation/Detection
- Biometric Template Protection and AI-based Countermeasures

Course Features

- 40 Hours of Lectures, hands-on, and 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

Course Outcomes

Participants are likely to:

- Analyze and evaluate biometric systems using machine learning and deep learning.
- Implement Generative AI techniques (GANs, Variational Autoencoders) in biometrics.
- Apply AI-based security techniques and vision transformers to biometric recognition.
- Assess and address privacy, ethical, and security challenges in biometric systems.
- Detect deepfakes and enhance biometric security through practical applications.
- Gain practical knowledge of biometric authentication systems and attack detection.

Experts from Academia/Industry

Who Should Register?

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

Registration Fee

Fees: ₹ 500/- Faculty/Research Scholar
Note: Registration Fee is Refundable if the cancellation request is submitted before the last date of registration.

How to make Payment

Please make the payment first using the below link upload the payment receipt when filling out the Google registration form

https://eict.iitr.ac.in/instruction-for-payment/

Conference Code: EICTIITR-FDP-25-31

Registration Link

https://forms.gle/dvPzJAArkq5n9d7e6

Scan QR for registration

Register before:
Feb 28 , 2025

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Resourse Person

- Prof. Phalguni Gupta, Former Professor IIT Kanpur
- Prof. Pritee Khanna, IIITDM Jabalpur
- Prof. Surya Prakash, IIT Indore
- Dr. Kiran Raja,
- Norwegian University of Science and Technology
- Prof. Vilaylaxmi, MNIT Jaipur
- Dr. Sambit Bakshi, NIT Rourkela
- Dr. Shiv Ram Dubey, IIIT Allahabad
- Allahabad, Dr. Harkeerat Kaur, IITJ
- Dr. Avantika Singh, IIIT Naya Raipur

Principal Coordinator

Prof Pritee Khanna, IIITDM Jabalpur

Joint Principal Coordinators

- Prof. Sanjeev Manhas, IIT Roorkee
- Prof. Neetesh Kumar , IIT Roorkee
- Dr. Kakali Chatterjee, NIT Patna
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