

Biometrics Security in the Generative AI Era (March 1 -12, 2025, Online Mode)

Date	Day	2:00 PM - 4:00 PM (only on March 1, 2025)		6 PM - 8 PM
March 1, 2025	Saturday	2:00 PM - 2:30 PM Inaugural	2:30 PM - 4:00 PM Lec 1: Introduction to Biometric Systems: Prof. Phalguni Gupta, Former Professor, IIT Kanpur	Lab 1: Brief introduction to Python, Jupyter Notebook, Google Colab, Keras, and Pytorch: Dr. Samir Jain, alfaTKG Integrated Sol. Pvt Ltd.
		2:30 PM - 4:30 PM (March 3 - 12, 2025)		6 PM - 8 PM
March 3, 2025	Monday	Lec 2: Biometric System Evaluation: Prof. Pritee Khanna, IIITDM Jabalpur	Lec 3: Fingerprint Recognition: Dr. Sambit Bakshi, NIT Rourkela	Lab 2: Training a machine learning model for fingerprint/face-based Biometric Authentication System: Dr. Sambit Bakshi, NIT Rourkela
March 4, 2025	Tuesday	Lec 4: Machine Learning and Deep Learning Models for Biometric Recognition: Dr. Rahul Raman, IIITDM Kancheepuram		Lab 3: Training a neural network for face/fingerprint-based Biometric Authentication System: Dr. Samir Jain, alfaTKG Integrated Sol. Pvt Ltd.
March 5, 2025	Wednesday	Lec 5: Attack Landscape on Biometric Recognition and Countermeasures against Attacks using AI: Dr. Rahul Raman, IIITDM Kancheepuram		Lab 4: Siamese network for face biometric recognition: Dr. Avantika Singh, IIIT Naya Raipur
March 6, 2025	Thursday	Lec 6: Vision Transformers for Biometric Recognition: Overview and Case Studies on Vision Transformers based Biometric Recognition: Dr. Shiv Ram Dubey, IIIT Allahabad		Lab 5: Biometric Recognition with Vision Transformers Dr. Poornima Singh Thakur, ABV IIITM Gwalior
March 7, 2025	Friday	Lec 7: Biometric Template Protection Techniques: Dr. Harkeerat Kaur, IIT Jammu		Lec 8: Autoencoder, Variational Autoencoders (VAEs), Applications of Generative AI in Biometrics: Prof. Aparajita Ojha, IIITDM Jabalpur
March 8, 2025	Saturday	Lec 9: Template Generation with Generative Models: Basics of GAN and its usage in Biometrics: Prof. Surya Prakash, IIT Indore		Lab 6*: Implementation of Autoencoder to Generate Biometric Data: Dr. Samir Jain, alfaTKG Integrated Sol. Pvt Ltd
March 10, 2025	Monday	Lec 10: Deepfake Generation and Detection: Prof. Pritee Khanna, IIITDM Jabalpur		Lec 11: Regulatory, Ethical, and Privacy Challenges: Prof. Mayank Vatsa, IIT Jodhpur
March 11, 2025	Tuesday	Lab 7: Implementation of GAN to Generate Biometric Data: Dr. Poornima Singh Thakur, ABV IIITM Gwalior		Lab 8: Explainable AI and Biometric Signal Processing: Dr. Kiran Raja, NTNU Norway
March 12, 2025	Wednesday	Lab 9: AI-based deepfake detection model Dr. Mohan Karnati, NIT Raipur		Lec 12: Future Trends and Research Directions: Dr. Prem Sewak Sudhish, Dayalbagh Educational Institute, Agra
				7:30 PM - 8:00 PM Valedictory

*A test is scheduled on March 8, 2025 at 8 PM after Lab 6.