

Electronics & ICT Academy IIT Roorkee



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

A Faculty Development Program

on

Multimodal Generative AI: Techniques, Applications, and Future Directions

In association with

Bennett University, Greater Noida

May 12 - May 16, 2025

Register Before: May 10, 2025



Venue: Hybrid Mode at School of CSET, Bennett
University, Greater Noida

Objectives of the Course

- To introduce participants to the foundational concepts of multimodal generative AI and their real-world relevance.
- To provide hands-on knowledge of advanced models like GPT-4V, CLIP, Stable Diffusion, and LangChain.
- To explore the application of AI across diverse domains such as healthcare, UAVs, digital art, and emotion recognition.
- To raise awareness on ethical issues, bias mitigation, explainability, and deployment strategies.
- To equip learners with tools for multimodal data preparation, feature extraction, and custom model fine-tuning.



Why this course ?

Multimodal Generative AI is revolutionizing how machines interpret, generate, and interact with various forms of data—text, image, audio, video—simultaneously. With the rise of technologies like GPT-4V, Gemini, CLIP, and LangChain, there is a critical need for researchers, developers, and educators to understand the fundamentals, advancements, and applications of multimodal systems. This course bridges theoretical foundations with hands-on tools and practical applications relevant to real-world challenges in healthcare, smart cities, creative AI, and ethical AI governance.

Prerequisites

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

Experts from Academia/Industry

Who Should Register?

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

Registration Fee

Fees: ₹ 250/- Faculty/Research Scholar/ Students
₹ 500/- Industry/Others

Note: Refund will be done in case of course
cancellation only, with in 20 working days

FDP Kits & Refreshment will be provided

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/>

EICT Course Code: EICTITR-FDP-25-39

Registration Link

<https://forms.gle/nE2HBaTPkVhUNHdM9>



Scan QR for
registration

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May 10, 2025

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Course Outcomes

- Comprehend the core principles and architectures of multimodal generative AI systems.
- Identify and apply state-of-the-art generative models in domain-specific use cases.
- Address ethical concerns and ensure transparency in AI system design.
- Gain practical experience in data processing, model tuning, and integration with tools like LangChain and Streamlit.
- Contribute to ongoing research or industrial innovation in AI-based systems across domains.

Focus Areas

- Attention mechanisms and transformers for multimodal learning
- Generative AI models: GPT-4V, CLIP, DALL-E, Stable Diffusion
- Multimodal applications in healthcare and smart cities
- Conversational AI and creative applications (music, art, video)
- Speech-text processing and emotion recognition
- Ethical and security challenges in AI
- Bias, explainability, and deployment tools (Gradio, Streamlit)
- LangChain & OpenAI API integration
- Blockchain synergy with AI

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

Who may benefit

- Academic Faculty and Students(UG/PG)
- Government Officials.
- Working Professionals in the Industry and Startups.
- Research Scientists and Technical Staff.



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

Principal Investigator

Prof. Sanjeev Manhas
ECE Department, IIT Roorkee

Course Coordinators

- Prof. Sanjeev Manhas, IIT Roorkee
- Prof. Akanksha Singh, Bennett University

Reach Us:

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