



PRAGATI ENGINEERING COLLEGE

(AUTONOMOUS)

DEPARTMENT OF CSE (DATA SCIENCE)

Date:06-09-2025

A Report on the Guest Lecture on "GENERATIVE AI FOR DATA SCIENCE APPLICATIONS"

As part of the technical activities under the **Society for Data Science – Student Chapter** of the Department of CSE (Data Science), this event was conducted.

Name of the Event: Online Guest Session

Title of the Event (Topic): GENERATIVE AI FOR DATA SCIENCE APPLICATIONS

Speaker (Resource Person) of the Event: Dr. Venkatesan Meenakshi Sundaram

Date of the Event: 6 Sept 2025

Time of the Event: 10:00 AM To 12:00 PM

Venue of the Event: Virtual /Online Mode

A total of 50 students attended this event. All the students have actively participated in the event.

Brief write-up of the event:

The Department of Computer Science and Engineering (Data Science), under the aegis of the Society for Data Science Student Chapter, organized a guest lecture on " GENERATIVE AI FOR DATA SCIENCE APPLICATIONS " on 6 Sept 2025. The event was held at Online Session and was attended by students and faculty members.

Objective of the Lecture

The primary objective of the lecture was to provide students with insights into Generative AI (GenAI), its core models, and applications in data science. The session aimed to:

- Introduce the fundamentals of Generative AI and its relationship with AI and Machine Learning.
- Explain the characteristics of GenAI and its underlying architectures.
- Provide an overview of popular generative models such as GANs, VAEs, Diffusion Models, and Transformers.
- Discuss the role of Large Language Models (LLMs) in real-world applications.
- Compare different generative approaches and highlight their strengths and limitations.

Session Details

The session began with a welcome note by a student, who introduced the resource person, **Dr.**

Venkatesan Meenakshi Sundaram

The lecture covered the following key areas:

1. Introduction to Generative AI

- What is Generative AI?
- Relationship between AI, Machine Learning, and Generative AI.
- Characteristics and importance of Generative AI in modern data science applications.

2. Core Generative Models

- Deep Convolutional Generative Adversarial Networks (DCGANs): Structure, generator–



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- Variational Autoencoders (VAEs): Latent space representation, probabilistic modelling, and reconstruction.
- Diffusion Models: Step-by-step noise-to-data generation and state-of-the-art results in image/video generation.

3. Language Models

- What is a language model?
- Transformer-based architectures and their role in GenAI.
- Overview of famous Large Language Models (LLMs) such as GPT, BERT, and LLMA.
- Types of Large Language Models: encoder-only, decoder-only, and encoder-decoder architectures.

4. Comparisons and Applications

- GANs vs. VAEs vs. Flow Models: Strengths, limitations, and use cases.
- Real-world applications of Generative AI in text, images, audio, and scientific research.
- Ethical considerations and responsible use of GenAI in data science.

Key Takeaways

- Students gained a clear understanding of Generative AI, its foundations, and its connection with AI and ML.
- Learned about the working principles of DCGANs, VAEs, and Diffusion Models.
- Understood the role of Transformers and LLMs in shaping modern data-driven applications.
- Learned to differentiate between GANs, VAEs, Flow Models, and LLMs for various tasks.
- The session highlighted the importance of responsible AI practices in deploying generative systems.
- Overall, the guest lecture was highly engaging and provided valuable insights into how Generative AI drives innovation in Data Science.

PHOTOGRAPHS FROM THE EVENT:

DEPARTMENT OF CSE (DATA SCIENCE)
Organizes
An Online Guest Lecture on
"GENERATIVE AI FOR DATA SCIENCE APPLICATIONS"



Dr. Venkatesan Meenakshi Sundaram
Associate Professor & Head
Department of Computer Science & Engineering
National Institute of Technology Puducherry
Karaikal, Puducherry

6th Sept. 2025

Under The Society for Data Science Student Chapter

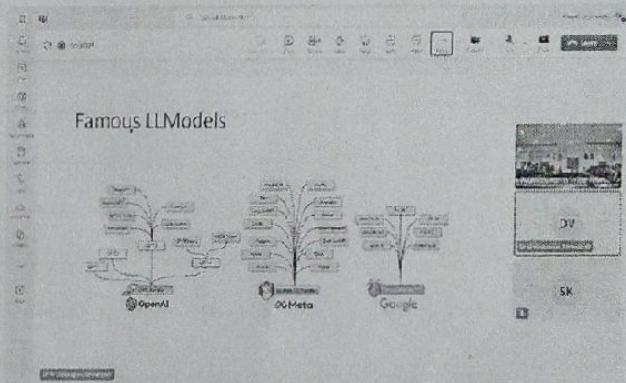
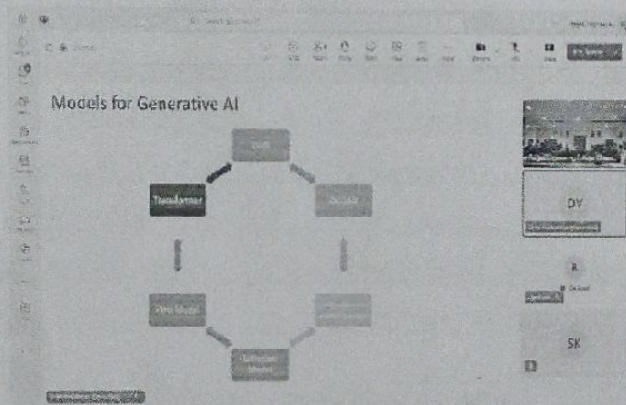
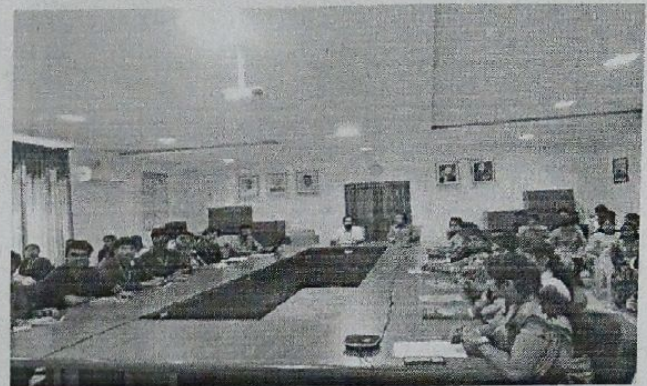
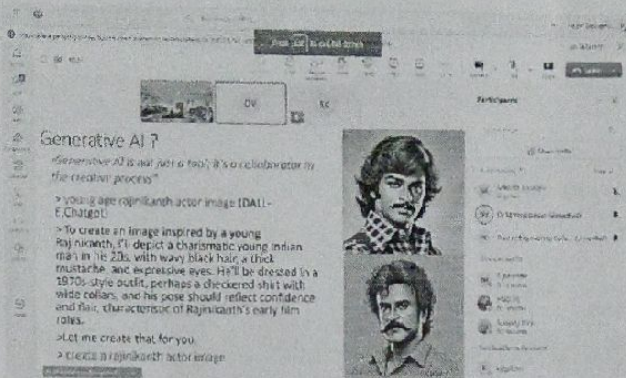
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M V Rajesh
M V Rajesh

HoD- CSE (Data Science)

Encl:

Attendance List of students



Learning is Supreme Duty

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(Approved by AICTE, Permanently Affiliated to JNTUK Kakinada & Accredited by NAAC)

1-378, ADB Road, Surampalem – 533 437, Near Peddapuram, E.G.Dist., A.P.

Ph: (08852) – 252233, 252234, 252235 Fax: (08852) – 252232

DEPARTMENT OF CSE (DATA SCIENCE)

DEPARTMENTAL ACTIVITY

Name of the Event: Guest Lecture

Title of the Event (Topic): Generative AI for Data Science Applications

Speaker (Resource Person) of the event: Dr. Venkatesan Meerakshi Sundaram

Date of the Event: 6/9/2025

Time of the Event: 10:00 AM to

Venue of the Event: Conference Hall

List of Students Attended: 52

12:00 PM

S.No	Roll Number	Name	Branch	Year	Signature of the student
1	23A31A4470	M. Sai Ram Bhargavi	DS-B	3 rd	M. Sai Ram Bhargavi
2	23A31A4460	Ch. Sai Subha Sai	DS-B	3 rd	Ch. Sai Subha Sai
3	23A31A4472	V. Pranavika	DS-A	3 rd	V. Pranavika
4	25A35A4414	SD. Arshatunnisa Begum	DS-C	2 nd	SD. Arshatunnisa
5	24A31A44D3	A. Harshitha	DS-C	2 nd	A. Harshitha
6	24A31A44D5	Ch. Rajasree	DS-C	2 nd	Ch. Rajasree
7	24A31A44E3	G. Srisisha	DS-C	2 nd	G. Srisisha
8	24A31A44F1	G. Bhavya Haritha	DS-C	2 nd	G. Bhavya Haritha
9	24A31A44E0	G. Mohana Ramya	DS-C	2 nd	G. Mohana Ramya
10	24A31A44F7	P. Sujini	DS-C	2 nd	P. Sujini
11	23A31A4464	G. Sri Surya Prabha	DS-B	3 rd	G. S. S. Prabha
12	23A31A4407	K. Satwik	DS-A	3 rd	K. Satwik
13	23A31A4405	G. Hemavathi	DS-A	3 rd	G. Hemavathi
14	23A31A4421	T. Siva Naga Bhargavi	DS-A	3 rd	T. Siva Naga Bhargavi
15	23A31A4410	K. Thanusha	DS-A	3 rd	K. Thanusha
16	23A31A4406	G. Chandrika Pawan	DS-A	3 rd	G. Chandrika Pawan
17	24A35A4404	K. Jaya Madhuri	DS-A	3 rd	K. Jaya Madhuri
18	23A31A4408	K. Monika	DS-A	3 rd	K. Monika
19	23A31A4409	K. Prasanna	DS-A	3 rd	K. Prasanna
20	23A31A4417	R. Thanu Soamyasri	DS-A	3 rd	R. Thanu Soamyasri
21	23A31A4401	A. Veera Lahari	DS-A	3 rd	A. Veera Lahari
22	23A31A4418	S. Kiranmai	DS-A	3 rd	S. Kiranmai
23	23A31A4414	P. Pooja	DS-A	3 rd	P. Pooja
24	23A31A4413	N. Pranavika	DS-A	3 rd	N. Pranavika

Name of the Student Coordinator

Signature of the Faculty Coordinator



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12:00 PM

S.No	Roll Number	Name	Branch	Year	Signature of the student
1	23A31A4488	G. Nishore	DS-B	III	G. Nishore
2	24A31A4440	G. Gunashekhar	DS-A	II	G. G. Nishore
3	23A31A4428	G. Harsha	DS-A	III	G. Harsha
4	23A31A4445	S. Chandrasekhar	DS-B	III	S. Chandrasekhar
5	24A31A4419	B. Dinesh	DS-B	III	B. Dinesh
6	23A31A4440	U. Kishore	DS-B	III	U. Kishore
7	23A31A4440	P. L. Mallikarjun	DS-B	III	P. L. Mallikarjun
8	24A31A4436	Ch. Chasan	DS-A	II	Ch. Chasan
9	23A31A4426	Ch. S. S. S. Sai	DS-A	III	Ch. S. S. S. Sai
10	24A31A4439	G. Dheeraj	DS-A	II	G. Dheeraj
11	24A31A4458	P. Ruvanth	DS-A	II	P. Ruvanth
12	24A31A4437	Ch. Prashanth Kumar	DS-A	II	Ch. Prashanth Kumar
13	24A31A4448	M. Mohan Kumar	DS-A	II	M. Mohan Kumar
14	23A31A4436	S. Prameetha	DS-B	III	S. Prameetha
15	24A31A4415	N. Surekha	DS-B	II	N. Surekha
16	24A31A4416	R. Binati Basanthi	DS-B	III	R. Binati Basanthi
17	24A31A4409	A. Leela	DS-A	II	A. Leela
18	24A31A4404	A. Pravalika	DS-A	II	A. Pravalika
19	24A31A4411	G. Rupa Sri	DS-A	II	G. Rupa Sri
20	25A31A4401	Ch. Lavanya	DS-A	II	Ch. Lavanya
21	24A31A4403	G. Aswatha	DS-A	II	G. Aswatha
22	24A31A4419	N. Mohan Sandhya	DS-A	II	N. M. Sandhya
23	24A31A4427	T. Aparna	DS-A	II	T. Aparna
24	24A31A4412	G. Madhu Priyanka	DS-A	II	G. Madhu Priyanka

G. Nishore

Name of the Student Coordinator

[Signature]

Signature of the Faculty Coordinator



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S.No	Roll Number	Name	Branch	Year	Signature of the student
1	24A31A4447	Mashonda pannaile sarath	DS-A	II	M. P. Sarath
2	24A31A4461	S. Santhosh	DS-A	II	S. Santhosh
3	24A31A4445	M. Sanjay Babu	DS-A	II	M. Sanjay
4	24A31A4454	R. Prem Sai	DSA	II	R. Prem Sai
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G. Vishu
Name of the Student Coordinator

D. B.
Signature of the Faculty Coordinator