

**MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**One Week FDP on “GENERATIVE AI: INNOVATION AND APPLICATION FOR SOCIAL IMPACT”**  
**06<sup>th</sup> –10<sup>th</sup> January 2025**  
**In Association with Shodhguru Innovation and Research Labs**  
**PROGRAM SCHEDULE**

<b>Date</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
06-01-2025 (Monday)	10:30 AM-11:30 AM	<b>REGISTRATION</b>	
	11:30 AM-12:30 PM	<b>INAUGURAL</b>	
	12:30PM – 1:15 PM	<b>LUNCH</b>	
	1:30 PM-2:45 PM	Convolutional Neural Networks: The backbone of Generative AI <ul style="list-style-type: none"> <li>Understanding CNN's: Foundation of Feature Extraction and Representation</li> <li>Empowering Generative Models: Applications of CNNs in Generative AI.</li> </ul>	<b>Dr Suresh Kumar Lokhande, Osmania University</b>
	3:00—4:00PM	Harnessing Generative AI: Insights, Innovations and impact on society	<b>Dr Edgard Marx, Eccenca, Germany</b>
07-01-2025 (Tuesday)	10:00 AM-11:30 AM	Ethical, Responsible, and Safe Requirements for AI	<b>Dr Ponnurangam Kumaraguru, IIIT, Hyderabad</b>
	11:30 AM-12:30 PM	Basic of Generative AI: <ul style="list-style-type: none"> <li>Types of Generative Models: Variational Autoencoders (VAEs), Generative Adversarial Networks (GANs),LLM</li> <li>Text generative AI models, image generative AI models and text to image generative AI models</li> </ul>	<b>Lakshmi Vejanla, Pantech Solutions India Pvt Ltd</b>
	12:30PM- 1:30 PM	<b>LUNCH</b>	
	1:30 PM – 2:30 PM	<b>Hands on:</b> <ul style="list-style-type: none"> <li>Basic concepts in TensorFlow/PyTorch for generative modelling.</li> <li>PyTorch based Tensor creation, reshaping,</li> </ul>	

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		device handling	
	2:30 PM–4:00 PM	Large Language Models: A perspective of their Large pertaining Datasets	<b>Dr Jennifer Dsouza, TIB Hannover, Germany</b>
08–01–2025 (Wednesday)	9:30 AM–11:00 PM	<p>Introduction to GANs: Generator and Discriminator networks. , types of GANs, Applications.</p> <p><b>Hands on:</b></p> <ul style="list-style-type: none"> <li>• Collect the dataset of the of text and images dataset and Apply the dataset to the pre-process to the images.</li> <li>• Do the data visualization using matplotlib and seaborn.</li> <li>• Splitting of the dataset with train and test splitting data.</li> </ul>	<b>Lakshmi Vejandla, Pantech Solutions India Pvt Ltd</b>
	11:00 AM–12:30 PM	<p><b>Hands on:</b></p> <ul style="list-style-type: none"> <li>• Training GANs on image datasets.Load the library packages of pytorch or tensorflow</li> <li>• Training GANs: Adversarial training, loss functions, gradient descent.</li> <li>• Fine-tuning GANs for specific tasks</li> <li>• Construct GANs algorithm with Resnet generator an discriminator model</li> </ul>	<b>Experts from Pantech Solutions India Pvt Ltd</b>
	12:30PM– 1:30 PM	<b>LUNCH</b>	
	1:30 PM – 2:30 PM	<p><b>Hands on:</b></p> <ul style="list-style-type: none"> <li>• Train the dataset with images of information to get accuracy and loss.</li> <li>• In this generator will generate new pictures from the old pictures.</li> </ul> <p><b>Demo on Image Resolution Enhancement With Sr-Gan Dvi2k</b></p>	<b>Experts from Pantech Solutions India Pvt Ltd</b>

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	2:30 PM–4:00 PM	Why do LLMs need Knowledge Graphs?	Mr Prasad Yalamanchi, Lead Semantics, USA
09–01–2025 (Thursday)	9:30 AM–11:00 AM	Introduction to Large Language Model and its applications using OPENAI. <ul style="list-style-type: none"><li>• Architecture and Working Principles of LLMs</li><li>• Deep dive into the architecture of LLMs such as GPT (Generative Pre-trained Transformer) models.</li><li>• Explanation of attention mechanisms, transformer architecture, and self-attention.</li><li>• How LLMs generate text and understand context</li></ul>	Lakshmi Vejandla, Pantech Solutions India Pvt Ltd
	11:00 AM–12:30 PM	<b>Hands on:</b> <ul style="list-style-type: none"><li>• Pre-training and fine-tuning phases of LLMs.</li><li>• Transfer learning and the importance of pre-trained models.</li><li>• Fine-tuning strategies for specific tasks.</li><li>• Load the text dataset in to the program using pandas</li><li>• Do the pre-process for the dataset to remove unwanted dataset information.</li><li>• Apply seaborn and matplotlib to visualize the data of input</li></ul>	Experts from Pantech Solutions India Pvt Ltd
	12:30PM– 1:30 PM	<b>LUNCH</b>	
	1:30 PM – 2:30 PM	<b>Hands on:</b> <ul style="list-style-type: none"><li>• Apply nltk and do training the dataset then apply algorithms and find the accuracy of sentiment.</li></ul>	Experts from Pantech Solutions India Pvt Ltd

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		<b>Demo on Text to image generation using stable diffusion for image generation using LLM</b>	
	2:30 PM–4:00 PM	Real World use cases and Challenges of deploying GenAI system	<b>Mr Ananad Panchbhai, Logy.AI, India</b>
10–01–2025 (Friday)	9:00 AM–10:00 AM	Trustworthy Generative AI	<b>Dr Manas Gaur, University of Maryland, Baltimore, USA</b>
	10:00 AM–12:30 PM	Introduction to Open AI's GPT API and resources for developers. <ul style="list-style-type: none"> <li>• Guided hands-on exercises using GPT models through OpenAI's API.</li> <li>• Building simple applications or prototypes using GPT for various NLP tasks.</li> </ul> <b>Demo on Educational named entity recognition using NLP,LLM, Openai</b>	<b>Lakshmi Vejanla, Pantech Solutions India Pvt Ltd</b>
	12:30PM– 1:30 PM	<b>LUNCH</b>	
	1:30 PM – 2:45 PM	Generative AI and Societal Impact, Discussion and Future Research	<b>Dr M A Hameed, Osmania University</b>
	3:00 PM – 3:45 PM	<b>VALEDICTORY</b>	
	3:45 PM – 4:00 PM	<b>HIGH TEA</b>	