



# NEW HORIZON COLLEGE OF ENGINEERING

Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC  
Accredited by NAAC with 'A' Grade, Accredited by NBA

## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

A REPORT on

### Two days FDP on “Generative AI: 5G and Beyond- Next-Gen Computing Paradigms”

#### In Association with IBM

Department of ISE organized **Two days of FDP on “Generative AI: 5G and Beyond- Next Gen Computing Paradigms”** in association with IBM for the faculty members of New Horizon College of Engineering from 27-Feb to 28-Feb-2025 at Department of ISE, NHCE. **Mr. Sachin Mudholkar**, Generative AI CoE Squad Leader, IBM India and his team, **Mr. Yash Vardhan Singh**, **Lead Data Scientist and AI Expertise**, and **Ms. Khushboo Tak**, **Senior Data Scientist**, took the sessions. The sessions were very informative and engaging, and they will also help the faculty of NHCE to implement innovative teaching for the course related to AI. The session was attended by around 35 faculty from NHCE.

**NEW HORIZON COLLEGE OF ENGINEERING** | **IBM**

Department of Information Science and Engineering | IBM

**Faculty Development Program**

**Generative AI: 5G and Beyond Next-Gen Computing Paradigms**

📅 27 & 28 February 2025  
🕒 09:30 AM - 04:40 PM  
📍 Juniper Lab, ISE Department

**Sachin Mudholkar**  
Lead Architect  
Generative AI CoE Squad Leader  
AI & Analytics | IBM Consulting

Coordinator  
**Dr. Arvind S. Kapse**  
Professor - ISE

Co-convenor  
**Dr. Vandana C P**  
Associate Professor & HoD - ISE

Convener  
**Dr. R. J. Anandhi**  
Dean-Academics, NHCE

Patron  
**Dr. Manjunatha**  
Principal, NHCE

**Patron** : Dr. Manjunatha, Principal, NHCE

**Convener:** Dr. R. J. Anandhi, Professor & Dean-Academics, NHCE

**Co-Convener:** Dr. Vandana C P, HoD-ISE

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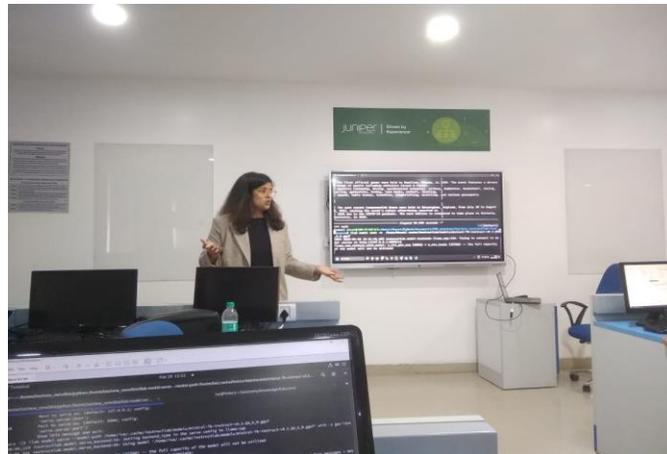
## Welcoming the Guests

On 1<sup>st</sup> Day (27-Feb-2025), the following topics were covered by **Mr. Sachin Mudholkar** & **Mr. Yash Vardhan Singh**



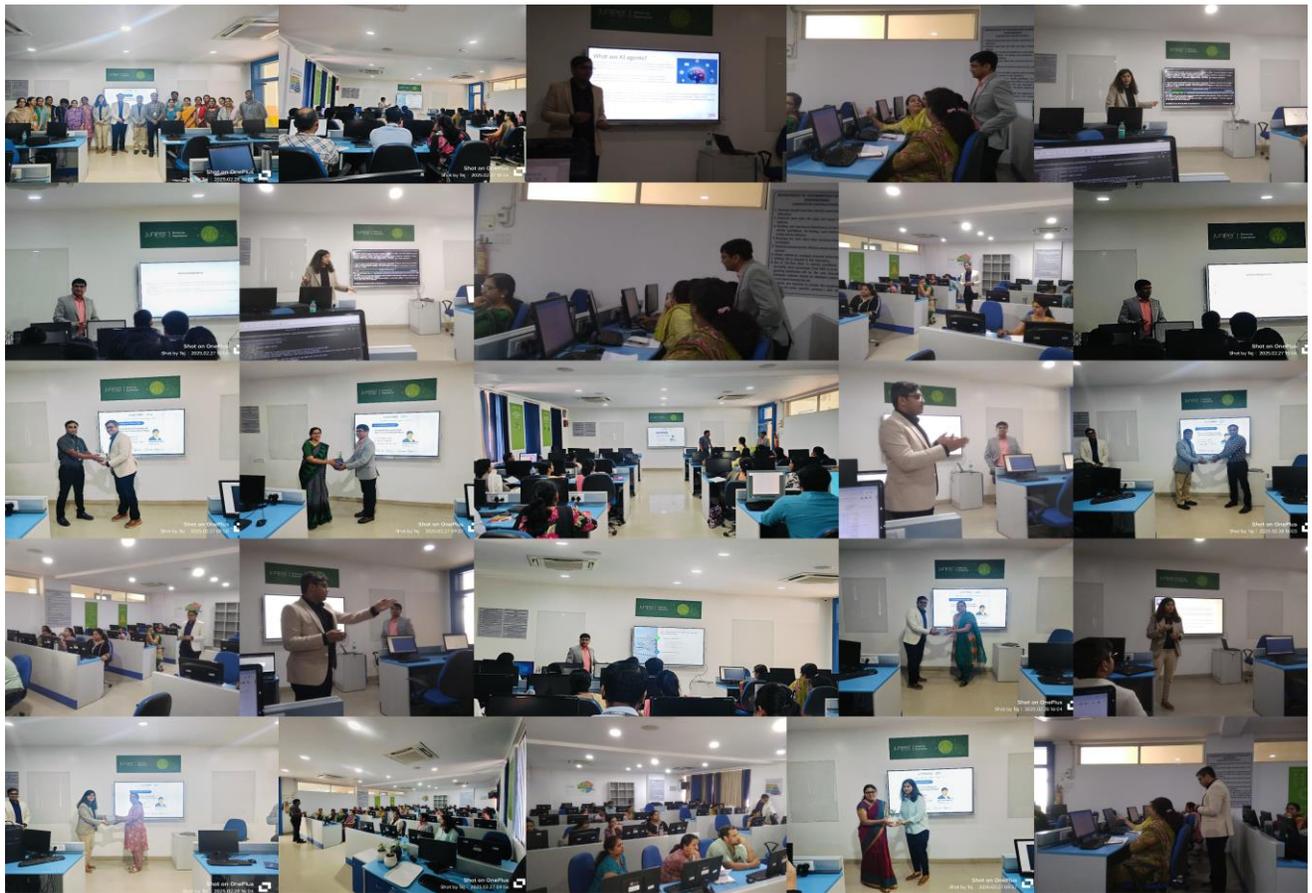
<b>Day 1 (27-Feb-2025): Generative AI Foundational Knowledge</b>			
<b>Inauguration (09:30 to 09:45 am)</b>			
<b>Session #</b>	<b>Topic</b>	<b>Resource Person</b>	<b>Time</b>
Session 1	<b>Introduction to Generative AI</b>	<b>Mr. Sachin Mudholkar</b> Generative AI CoE Squad Leader   25+ years exp.	09:45 am to 11:15 am
	<ul style="list-style-type: none"> <li>• The Impact of Generative AI   The Opportunity</li> <li>• Foundation Models New Paradigm of AI Development</li> <li>• Core concepts and applications of Generative AI</li> <li>• Generative AI Ecosystem, Deployment Landscape</li> <li>• Overview of different types of generative models and Landscape</li> <li>• Generative AI Technical Stack/Architecture – Deep Dive</li> </ul>		
<b>Tea Break (11:15 am to 11:30 am)</b>			
Session 2	<b>Foundation Models Deep Dive</b>	<b>Mr. Sachin Mudholkar</b> Generative AI CoE Squad Leader   25+ years exp.	11:30 am to 01:00 pm
	<ul style="list-style-type: none"> <li>• Prompt Engineering</li> <li>• RAG Patterns - Use Cases</li> <li>• When to Finetune the Generative AI Model – Fine-tuning Techniques</li> <li>• Different Use Case using RAG Patterns – Hands-on</li> </ul>		
<b>Lunch Break (01:00 pm to 02:00 pm)</b>			
Session 3	<b>AI Agents - Agentic Framework - Patterns</b>	<b>Mr. Yash Vardhan Singh</b> Lead Data Scientist   Data Science and AI Expertise   8.5 years exp.	02:00 pm to 03:20 pm
	<ul style="list-style-type: none"> <li>• What is Agentic Framework? What are AI Agents</li> <li>• Different Use Cases AI Agents and Frameworks</li> <li>• LangGraph Components</li> <li>• Agentic Tools</li> <li>• Human in loop</li> <li>• Supervisor and sub agents</li> <li>• Resource Person: Natural Language Processing (NLP) Expert/Generative AI Researcher/RAG</li> </ul>		
<b>Tea Break (03:20 pm to 03:30 pm)</b>			
Session 4	<b>Hands-on Lab - Introduction to Generative AI Frameworks</b>	<b>Mr. Yash Vardhan Singh &amp; Mr. Sachin Mudholkar</b>	03:30 pm to 04:40 pm
	<ul style="list-style-type: none"> <li>• Build an Agent from Scratch</li> <li>• Write tools and bind with Agents</li> <li>• Multi Agent System</li> <li>• Resource Person: Natural Language Processing (NLP) Expert/Generative AI Researcher/RAG</li> </ul>		

On 2<sup>nd</sup> Day (28-Feb-2025), the following topics were covered by **Mr. Sachin Mudholkar & Ms. Khushboo Tak**



<b>Day 2 (28-Feb-2025): Generative AI Foundational Knowledge</b>			
<b>Session #</b>	<b>Topic</b>	<b>Resource Person</b>	<b>Time</b>
Session 5	<b>The World of Telco AI: New World Coming</b>	<b>Mr. Sachin Mudholkar</b> Generative AI CoE Squad Leader   25+ years exp.	09:30 am to 10:50 am
	<ul style="list-style-type: none"> <li>• Overview of Telecom Network and Ecosystem Big Data - Telco TFM</li> <li>• Defining AI along a spectrum of capabilities</li> <li>• Telco Generative AI Deployment Drivers, Landscape &amp; Lifecycle</li> <li>• What kind of Data we have in 5G &amp; Beyond Networks?</li> </ul>		
<b>Tea Break (10:50 am to 11:00 am)</b>			
Session 6	<b>5G and Beyond Networks</b>	<b>Mr. Sachin Mudholkar</b> Generative AI CoE Squad Leader   25+ years exp.	11:00 am to 11:45 am
	<ul style="list-style-type: none"> <li>• Potential Use Cases UAV/C-V2X/Private 5G</li> <li>• The Rise of Synthetic Data</li> </ul>		
Session 7	<b>Instruct Lab</b>	<b>Ms. Khushboo Tak</b> Senior Data Scientist, IBM	11:45 am to 01:15 pm
	<ul style="list-style-type: none"> <li>• What does Instruct LAB do?</li> <li>• How does Instruct LAB work?</li> <li>• How is instruct lab different than other methods of training an LLM?</li> <li>• Instruct LAB components</li> <li>• Knowledge and Skill (taxonomy) build Hands on on Instruct LAB SDG 30-40 minutes (TBD).</li> </ul>		
<b>Lunch Break (01:15 pm to 02:00 pm)</b>			
Session 8	<b>Instruct Lab – Hands – On Session</b>	<b>Ms. Khushboo Tak &amp; Mr. Sachin Mudholkar</b>	02:00 pm to 03:40 pm
	<ul style="list-style-type: none"> <li>• Hands on Session – Provided the setup is ready Or</li> <li>• Walk through the use case</li> </ul>		
<b>Tea Break (03:40 pm to 03:50 pm)</b>			
<b>Valedictory Session</b>			03:50 pm to 04:30 pm

Group photo at the end of the session with the IBM team and the NHCE Participants



  
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