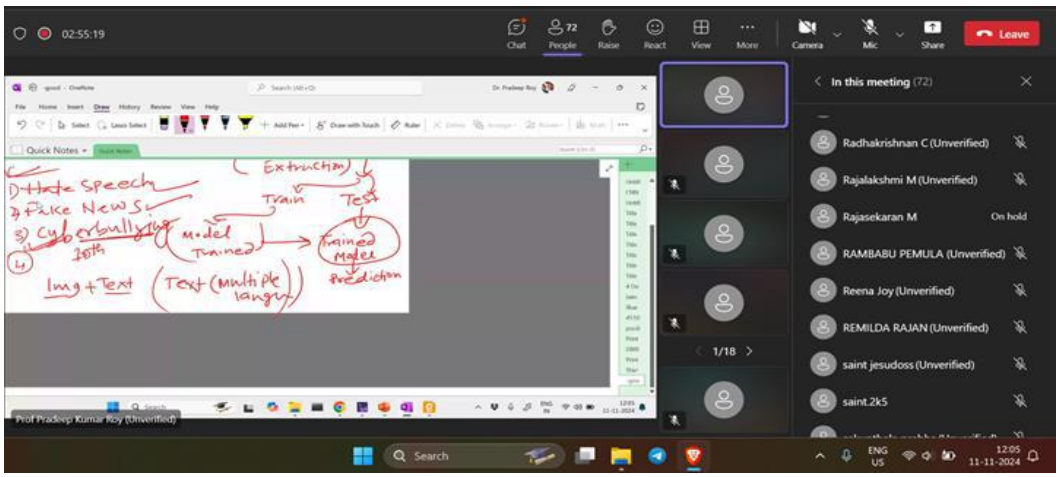
A Report on Short Term Training Program on
"Gen AI Tools and Techniques"
Organized by Department of Computer Science & Engineering
in Association with Computer Society of India (CSI)
from 11.11.2024 to 16.11.2024

Report Submitted by: Dr. R. Nidhya, Professor, Department of Computer Science and Engineering
Total no. of Participants: 114
Mode of Conduct: Online
Report Received on 18.11.2024.

The Programme started at 10 AM with a welcome note by Dr. R. Nidhya, Professor, Dept. of CSE, MITS. The welcome address was delivered by Dr M Sreedevi, Professor & HoD, Department of Computer Science & Engineering, MITS. The presidential address was delivered by Dr. P. Ramanathan, Vice Principal (Academics), MITS. Dr. R. Nidhya mentioned the details about the resource persons for the STTP and about the schedule overview.

Day 1: 11.11.24 (Monday)
Resource Person: Dr Pradeep Kumar Roy, Assistant Professor/Decision Science & Information Systems, Indian Institute of Management, Nagpur
Topic: Social Network Analysis with Deep Learning
The resource person started the session by extended his thanks to the Management, Principal, HoD, Organizers. He started explaining about latest advancements in the application of deep learning techniques for analyzing social networks. The focus was on how deep learning models, particularly those designed for large and dynamic datasets, can enhance the understanding of complex social structures, behaviours, and interactions in various domains.The session ended with Q&A session with participants.



Day 2: 12.11.24 (Tuesday)

Resource Person: Mr. Sakthivel Senthilkumar, AI/ML Lead, Nunnari Labs Private Limited, Coimbatore

Topic: Leveraging Lightweight LLMs and Gen AI Tools for Real-World Applications

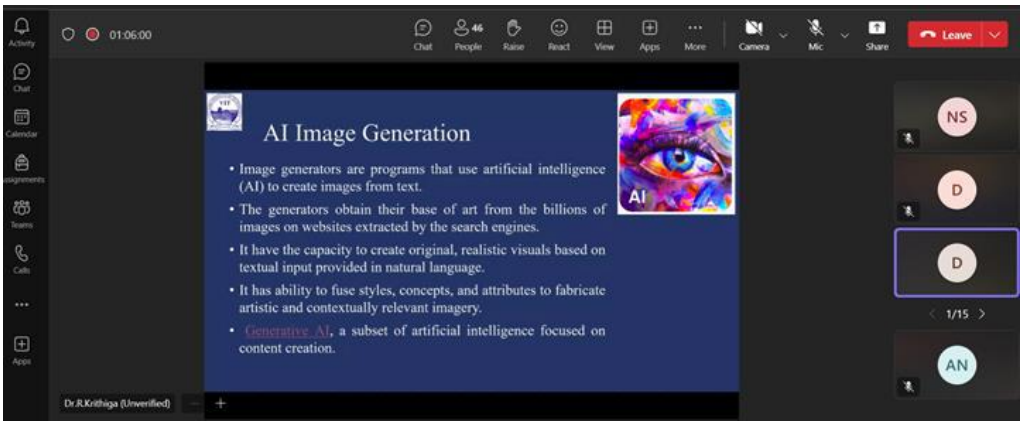
Day 2 first session was handled by Mr. Sakthivel Senthilkumar. Dr R Nidhya introduced her to the participants and the session was continued by the Resource Person. The session was focused on how lightweight large language models (LLMs) and generative AI tools are transforming industries and use cases in the real world. With the growing demand for fast, efficient, and accessible AI models, this event brought together experts, researchers, and practitioners to explore the practical implications, benefits, and challenges of deploying smaller LLMs and Gen AI tools in various sectors, from business and healthcare to content creation and software development. Finally, the session was concluded with an effective Q&A session with the participants.

Day 3: 13.11.2024 (Wednesday)

Resource Person: Dr. R. Krithiga, Assistant Professor, School of Computer Science and Engineering, Vellore Institute of Technology, Chennai

Topic: Images with DALL-E

Day 3 session was handled by Dr. R. Krithiga. Mr. N. Ajay Pradeep introduced him to the participants and the session was continued by the Resource Person. The session focused on the capabilities and applications of **DALL-E;** an advanced generative AI model developed by OpenAI for creating images from textual descriptions. The event provided attendees with an in-depth exploration of how DALL-E works, its impact on industries ranging from art and design to advertising and entertainment, and the creative possibilities it unlocks for individuals and businesses alike. Finally, the session concluded with an effective Q&A session with the participants.

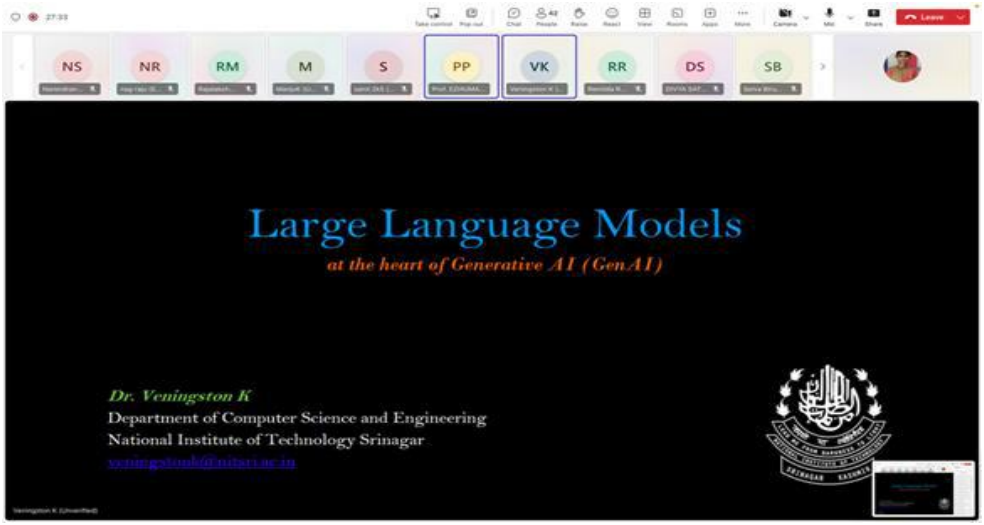


Day 4: 14.11.2024 (Thursday)

Resource Person: Dr. K. Veningston, Assistant Professor, Dept. of CSE, National Institute of Technology, Srinagar

Topic: Large Language Model for NLULarge Language Model for NLU

Day4 session was handled by Dr K Veningston. Dr R Nidhya introduced him to the participants and the session was continued by the Resource Person. He started the session by explaining using **Large Language Models (LLMs)** such as GPT, BERT, and their derivatives. The resource person discussed the latest developments in NLU, the applications of LLMs, and their impact on fields like search engines, chatbots, sentiment analysis, and beyond. Finally, the session concluded with effective Q&A session with the participants.

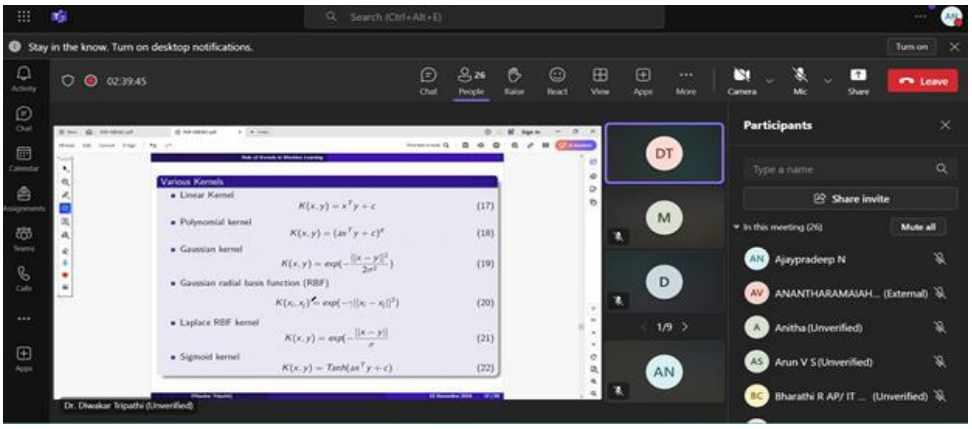


Day 5: 15.11.2024 (Friday)

Resource Person: Dr Diwakar Tripathi, Assistant Professor, Dept. of CSE, National Institute of Technology, Jamshedpur

Topic: Introduction to ML Approaches with Applications in Modern Life

Day 5 session was handled by Dr Diwakar Tripathi. Dr R Nidhya introduced him to the participants and the session was continued by the Resource Person. The session provided a comprehensive overview of **Machine Learning (ML)** techniques and their real-world applications. The session aimed to introduce attendees to the fundamentals of machine learning and showcase its transformative role in diverse sectors such as healthcare, finance, retail, and transportation. Finally, the session was concluded with effective Q&A session with the participants.

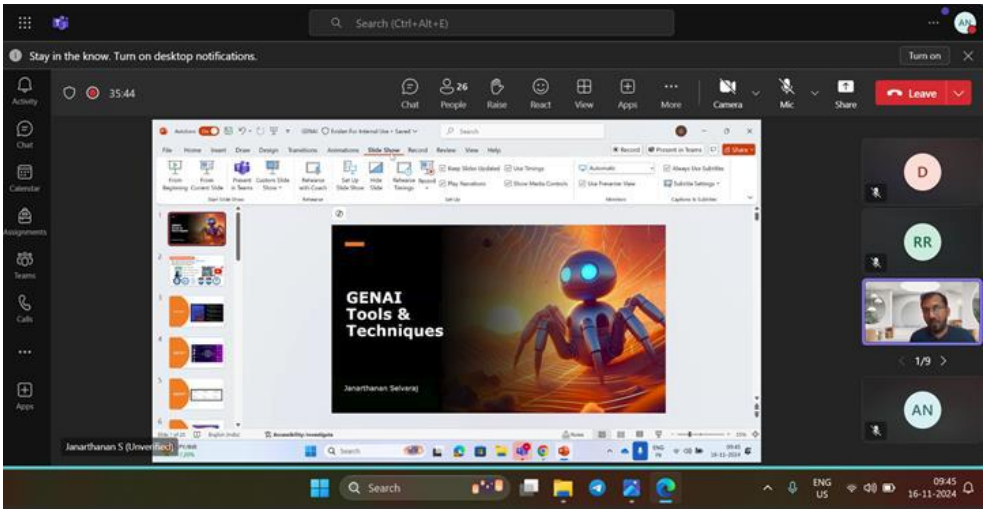


Day 6: 16.11.2024 (Saturday)

Resource Person: Mr. Janarthanan Selvaraj, Senior Specialist and EVIDEN Expert, EVIDEN AI, Chennai.

Topic : Pioneering the Future: The GenAI Way Forward using Microsoft Copilot

Day 6 session was handled by Mr.Janarthanan Selvaraj. Mr. N.Ajaypradeep introduced him to the participants and session was continued by the Resource Person. The session was focused on the transformative potential of **Generative AI (GenAI),** with a specific emphasis on **Microsoft Copilot** as a powerful tool in reshaping workflows across industries. The event highlighted how **GenAI** is changing the landscape of work, creativity, productivity, and decision-making, and how **Microsoft Copilot** is helping to drive these changes through its integration into Microsoft 365 applications. Finally, the session concluded with effective Q&A session with the participants.



Finally, session was concluded by vote of thanks delivered by Mr N Ajaypradeep, Assistant Professor/CSE. He extended his thanks to Management, Principal, HoD, colleagues, all resource persons and participants for the successful completion of the event.

Summary of FDP:

Total number of Participants: 114

- **Andhra Pradesh : 11**
- **Karnataka : 12**
- **Kerala : 14**
- **Tamilnadu : 63**
- **Maharastra : 02**
- **Telangana : 06**
- **Delhi : 01**
- **Madhya Pradesh : 01**
- **Pondicherry : 03**
- **West Bengal : 01**

Outcome of the FDP:

- Understanding of Gen AI fundamentals: Participants gained a solid grasp of key concepts in Generative AI, including the principles behind transformer models, GANs, and NLP techniques.
- Familiarity with state-of-the-art tools: Participants became proficient in using platforms such as OpenAI's GPT models and Google Cloud AI tools to build and deploy Gen AI applications.
- Knowledge of AI applications: Attendees were introduced to a range of use cases, from automating content creation to generating synthetic data for machine learning, and were able to relate GenAI tools to their own industry contexts.
- Participants developed an awareness of the ethical issues surrounding the use of Gen AI, including risks such as bias in AI-generated content and unintentional misuse.
- They learned about the importance of maintaining AI transparency and ensuring that bias mitigation strategies are incorporated into AI models, especially in high-stakes areas such as hiring, healthcare, and financial services.
- The program emphasized the significance of responsible AI governance, and attendees gained practical guidance on how to ensure that AI systems are built and used ethically in real-world applications.