



**CHAITANYA BHARATHI
INSTITUTE OF TECHNOLOGY**

An Autonomous Institute | Affiliated to Osmania University
Kokapet Village, Gandipet Mandal, Hyderabad, Telangana-500075, www.cbit.ac.in



Faculty Development Program
on
Mastering AI and GPT: Unleashing the power of Intelligent Automation
Organized by
Department of Artificial Intelligence and Data Science
In association with
National Institute of Electronics and Information Technology,
Aurangabad

REPORT

The Faculty Development Program (FDP) on "**Mastering AI and GPT: Unleashing the Power of Intelligent Automation**" was organized by the **Department of Artificial Intelligence and Data Science** at CBIT, Hyderabad, in collaboration with the **National Institute of Electronics and Information Technology (NIELIT), Aurangabad**, from 17th to 21st December 2024. This FDP addressed the growing need for academia to adapt to the rapid advancements in Artificial Intelligence (AI) and Generative Pre-trained Transformer (GPT) technologies. As AI continues to revolutionize industries by automating processes, enhancing efficiency, and creating innovative solutions, this program aimed to equip educators with cutting-edge knowledge and practical skills. By fostering expertise in GPT model fine-tuning, AI-powered application development, and natural language processing (NLP), the workshop sought to empower participants to integrate these transformative technologies into their teaching and research practices.

The program was led by **Convener Dr. K. Radhika, Professor and Head**, and **Co-Convener Dr. P. Ramesh Babu, Associate Professor, Department of IT**. The organizing team included **Coordinators Dr. R. Madana Mohana, Professor and Dr. Kadiyala Ramana, Associate Professor**, along with **Co-Coordinator Dr. T. Satya Kiranmai and Dr. S. Shobarani, Assistant Professors**. Their dedicated efforts and meticulous planning ensured a seamless and enriching experience for all participants. This FDP served as a



platform for educators to bridge the gap between traditional teaching methodologies and emerging AI-driven innovations, making it an essential program for advancing academic excellence.

Day 1: 17th December 2024

The first day of the Faculty Development Program (FDP) began with an Inauguration Ceremony held at the D-Block Seminar Hall. The event was graced by **Chief Guest Dr. Ankit Manderna, Scientist-B, NIELIT**, and **Guest of Honour Ms. Manjiri A. Lavadkar, Senior Project Faculty, NIELIT**. **Prof. K. Krishna Veni, Incharge Principal, and Vice-Principal (Academics)** welcomed the attendees, emphasizing CBIT's commitment to technological excellence. **Dr. Kadiyala Ramana, FDP Coordinator**, outlined the program's goals, and encouraged participants to actively engage in the sessions.

The morning session, led by **Dr. Ankit Manderna**, introduced participants to Artificial Intelligence and the evolution of GPT models. Topics included the history and applications of AI, advancements from GPT-1 to GPT-4, and an introduction to ChatGPT. Practical demonstrations of transformer-based models and prompt engineering techniques were provided to help participants understand AI's transformative potential.

In the afternoon, **Ms. Manjiri Lavadkar** conducted a session on Python Programming Essentials. She covered the fundamentals of Python, including functions, modules, and packages, enabling participants to acquire essential programming skills. The first day set the stage for a dynamic and interactive learning journey, emphasizing a blend of theory and practical knowledge.



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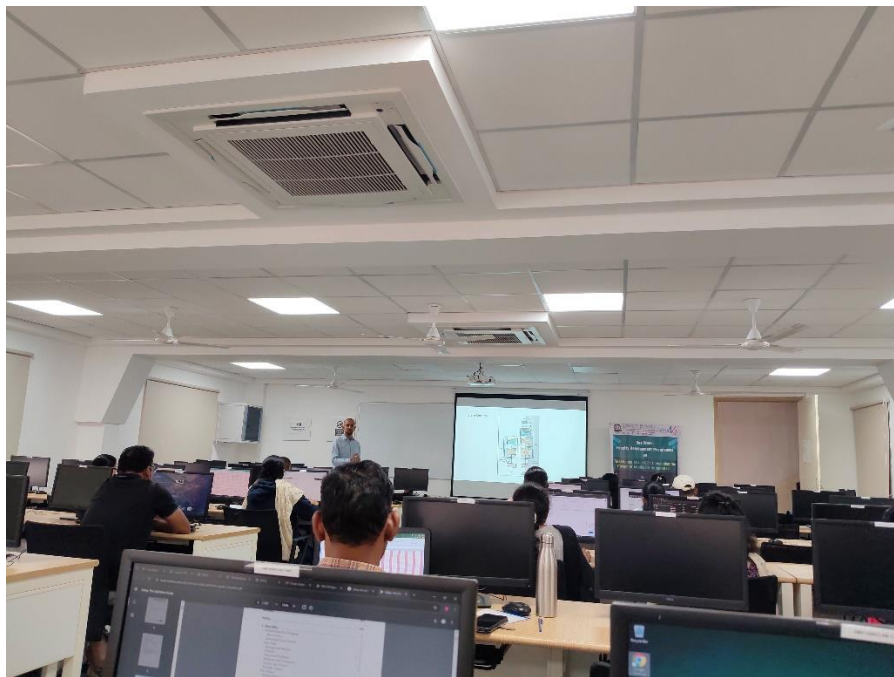




Day 2: 18th December 2024

The second day delved into Developing GPT-Powered Applications and Natural Language Processing (NLP). In the morning session, **Dr. Ankit Manderna** discussed advanced GPT techniques. Participants learned about text generation, chatbot development, and fine-tuning GPT models for specific applications. Ethical considerations in AI usage were also highlighted, emphasizing the importance of responsible AI practices in academia and industry.

The afternoon session, led by **Ms. Manjiri Lavadkar**, introduced participants to NLP fundamentals. Key tasks such as tokenization and sentiment analysis were covered, along with techniques like Bag-of-Words (BoW) and Term Frequency-Inverse Document Frequency (TF-IDF). The session included practical examples and coding exercises, enabling participants to analyze and process text data effectively. By the end of the day, participants had a strong foundation in NLP concepts and were prepared for more advanced topics.





Day 3: 19th December 2024

Day three began with a session on Prompt Engineering by **Dr. Ankit Manderna**. Participants explored techniques for crafting effective prompts tailored to various AI use cases. The session covered best practices in prompt design and included hands-on exercises where attendees designed prompts for specific applications, enhancing their understanding of how to guide AI outputs efficiently.

In the afternoon, **Ms. Manjiri Lavadkar** conducted a practical session on NLP Use Cases. Participants worked on training and validating models for a chatbot application. The session emphasized real-world applicability, with attendees developing and fine-tuning models for practical deployment. The combination of theoretical insights and hands-on practice solidified participants' understanding of NLP and its potential to solve real-world problems.

Day 4: 20th December 2024

The fourth day focused on Deep Learning. In the morning, **Ms. Manjiri Lavadkar** introduced the fundamentals of neural networks and discussed the architecture and functionality of popular frameworks such as TensorFlow and PyTorch. Participants gained insights into how deep learning models work and their applications across various domains.

The afternoon session was dedicated to a hands-on implementation of deep learning models. Participants explored TensorFlow and PyTorch APIs, building and evaluating models under expert guidance. By engaging in practical exercises, attendees enhanced their technical proficiency in utilizing these frameworks for AI model development. The day provided a comprehensive understanding of deep learning and practical skills for implementing complex algorithms.



Day 5: 21st December 2024

The final day began with a Capstone Project Session led by **Dr. Ankit Manderna**, where participants applied their learning to real-world projects. Attendees were tasked with defining and executing AI and GPT projects, emphasizing practical problem-solving. These projects showcased participants' ability to integrate theoretical concepts and practical skills to address real-world challenges.

In the afternoon, the focus shifted to Emerging Trends in AI, including the latest advancements in NLP and AI technologies. **Dr. Manderna** provided insights into ongoing research, future trends, and potential breakthroughs in AI, inspiring participants to continue exploring these transformative technologies.

The program concluded with an MCQ-based assessment exam and a Valedictory Session. Presided over by **Prof. K. Radhika**, the session celebrated the successful completion of the FDP. Certificates were distributed to 70 participants for their active engagement, and resource persons shared their reflections on the program. Coordinators and co-coordinators were acknowledged for their pivotal roles in organizing the event. The valedictory address emphasized the importance of integrating AI technologies into academia and professional practices, marking the end of an inspiring and enriching program.





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