A Report of

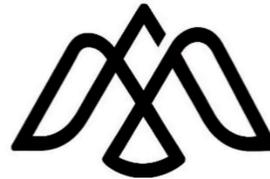National level 5 Days Faculty Development Program

On

AI-Driven Technologies for Academic Research

Organized by:

Department of CSE (AI & ML)

05th to 09th June 2023

Target Audience: Teaching Faculties

In association with

Institution Innovation Council and Plexus Club

Date: 05-06-2023 to 09-06-2023.

Mode: Online

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MALLA REDDY COLLEGE OF ENGINEERING
(Approved by AICTE-New Delhi, Affiliated to JNTUH-Hyderabad)
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ABOUT THE INSTITUTION

MALLA REDDY BLOCK-A

Malla Reddy College of Engineering (Formerly CM Engineering College) has been established under the aegis of the Malla Reddy Group of institutions in the year 2005, a majestic empire, founded by chairman Sri. Ch. Malla Reddy. He has been in the field of education for the last 22 years with the intention of spearheading quality education among children from the school level itself.

Since the beginning Mr. Malla Reddy has endeavoured to ensure quality education and carved a niche for himself by managing this group of institutions.

Malla Reddy College of Engineering has been laid upon a very strong foundation and has ever since been excelling in every aspect. The bricks of this able institute are certainly the adept management, the experienced faculty, the selfless non-teaching staff and of course the students.

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INSTITUTION VISION:

To emerge as a center of Excellence for producing professionals who shall be the leaders in technology innovation, entrepreneurship, management and in turn contribute for advancement of society and human kind.

INSTITUTION MISSION:

- To provide an environment of learning in emerging technologies.

- To nurture a state of art teaching learning process and R&D culture.

- To foster networking with Alumni, Industry, Institutes of repute and other stakeholders for effective interaction.

- To practice and promote high standards of ethical values through societal commitment.

VISION OF THE DEPARTMENT

- To teach excellence education for undergraduates in the field of Artificial Intelligence and Machine Learning in the technological-embedded domain and make professionals who help the better cause of society.

MISSION OF THE DEPARTMENT

- Impart demanding training to create knowledge through the state-of-the-art ideas and skills in Artificial Intelligence and Machine Learning.

- Facilitate the students to adapt to the rapidly changing technologies by providing cutting-edge laboratories and facilities.

- Kick off the research and training, paying special attention to the essential skills of the subsequent generation's workforce.

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ABOUT CSE (AI&ML) DEPARTMENT

The Department of Artificial Intelligence and Machine Learning (AI&ML) was founded in 2020 with the goal of providing high-quality higher education to as many students as possible and to satisfy the enormous need for highly trained professionals in the industry. The Department of AI&ML offers a B. Tech program in Computer Science and Engineering (Artificial Intelligence and Machine Learning). The curriculum is created to give students a firm foundation in AI and ML principles and concepts as well as practical experience in handling situations from the real world. Programming languages, computer architecture, machine learning, natural language processing, artificial intelligence, and deep learning are some of the department's core subjects. Students are continuously trained with an attitude of excellence to overcome automation challenges across all industries and provide new context and background to improve the agile process with the assistance of great laboratory facilities and well-qualified faculty members. Because of the program's interdisciplinary nature, it draws on knowledge and coursework from many different disciplines, including computer science, mathematics, and statistics. Students will have the chance to take part in research projects in addition to the required courses, both inside the department and with other departments and organizations. Students who complete the B.Tech. programme in Computer Science and Engineering (Artificial Intelligence and Machine Learning) will be well-versed in the theories and methods of AI & ML and will be qualified for employment in a range of fields and positions, including data analysis, software development, and research.

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POSTER

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ABOUT THE EVENT

"AI-Driven Technologies for Academic Research"

The Department of Computer Science and Engineering (Artificial Intelligence & Machine Learning), Malla Reddy College of Engineering, successfully organized a **Five-Day National Level Faculty Development Programme (FDP)** on the theme **"AI-Driven Technologies for Academic Research"** from **5th June 2023 to 9th June 2023**. The programme was conducted in **online mode**, attracting enthusiastic participation from faculty members, research scholars, and postgraduate students from Engineering, Science, Management, and allied disciplines across the country.

The FDP commenced with a formal inauguration, including a welcome address by the organizing committee and an overview of the objectives of the programme. The sessions were delivered by **eminent academicians and industry experts**, whose insightful deliberations emphasized the growing role of Artificial Intelligence in transforming academic research methodologies, enhancing research productivity, and fostering interdisciplinary innovation.

This FDP was designed to familiarize participants with **AI-driven research tools and technologies**, including machine learning, deep learning, natural language processing, and generative AI, and to demonstrate their applications in data analysis, literature review, publication processes, and research proposal development.

Day-wise Highlights

Day 1 – Foundations of AI in Academic Research
The sessions introduced the fundamentals of Artificial Intelligence and its relevance to modern academic research. Participants gained insights into AI-enabled research workflows and the integration of intelligent tools for efficient research planning and execution.

Day 2 – Data Analytics and Machine Learning for Research

The focus was on data preparation, analytics, and machine learning techniques used in research. Real-world examples helped participants understand how AI models can be applied to analyze complex datasets and derive meaningful insights.

Day 3 – Deep Learning and Advanced AI Techniques

Sessions explored deep learning architectures and natural language processing techniques, highlighting their applications in pattern recognition, text analysis, and predictive modeling for research-oriented problems.

Day 4 – Generative AI and Research Automation

Participants were introduced to generative AI tools and AI-based automation techniques that assist in content generation, experimentation, and research management, significantly improving efficiency and accuracy.

Day 5 – AI in Publications and Research Management

The final day focused on AI tools for research writing, publication strategies, and AI-driven research proposal development. The sessions guided participants on leveraging AI to enhance the quality of research outputs and funding proposals.

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FDP – AIM, PURPOSE AND IMPORTANCE

AIM

The aim of this Faculty Development Programme on **"AI-Driven Technologies for Academic Research"** is to equip faculty members with in-depth knowledge of AI-driven tools, techniques, and methodologies that enhance research efficiency, quality, and innovation. The programme empowers participants to integrate Artificial Intelligence into research workflows, data analysis, publication processes, and interdisciplinary research activities.

PURPOSE

The purpose of this FDP is to provide a comprehensive platform where participants can:

- Understand the role of AI-driven technologies in modern academic research, including machine learning, deep learning, natural language processing, and generative AI.

- Gain practical exposure to AI-based tools for literature review, data preprocessing, analytics, experimentation, and research automation.

- Enhance their ability to design AI-enabled research models, develop datasets, and apply advanced analytical and scientific methodologies.

- Learn to utilize AI platforms that support research writing, publication enhancement, plagiarism detection, and funding proposal development.

- Foster interdisciplinary collaboration among faculty members and researchers, promoting the application of AI across engineering, science, management, and allied disciplines.

IMPORTANCE

This FDP holds significant importance as it:

- Enables faculty members to stay aligned with the rapid evolution of AI-driven research technologies.

- Strengthens the research ecosystem by integrating intelligent tools into academic inquiry and innovation.

- Enhances faculty capability to mentor students in research projects, dissertations, and AI-enabled problem solving.

- Promotes the development of high-quality research publications, patents, and AI-driven project proposals.

- Encourages interdisciplinary and collaborative research that addresses real-world challenges using AI.

- Prepares institutions to adopt advanced research practices, driving academic excellence, research productivity, and societal impact.

In essence, this FDP was not merely focused on research skill enhancement, but on transforming faculty members into **AI-enabled researchers and mentors** capable of driving innovation and guiding students toward impactful, future-ready research. It reflects **MRCE's commitment to continuous faculty development, research excellence, and the advancement of AI-driven academic ecosystems**.

Summary:

The National Level Faculty Development Programme on **"AI-Driven Technologies for Academic Research"**, organized by the Department of CSE (Artificial Intelligence & Machine Learning), Malla Reddy College of Engineering (MRCE), was conducted entirely through **online mode** from **5th June to 9th June 2023**.

To ensure smooth communication and timely updates throughout the programme, a dedicated **WhatsApp group** was created. Participants were encouraged to join the group using the link provided to stay connected, interact with peers, and receive important announcements. Session links were shared with participants via email ahead of each session.

Important:

FDP Dates: 5th June – 9th June 2023

Mode: Online

All sessions were conducted via Cisco Webex.

Total no of particiapants:60

Note: Participants were kindly requested to download and install the Cisco Webex Meetings application in advance to avoid any last-minute technical issues.

Installation Links

• For Desktop/Laptop: https://www.webex.com/downloads.html

• For Android: https://play.google.com/store/apps/details?id=com.cisco.webex.meetings

• For iOS (iPhone/iPad): https://apps.apple.com/app/id298844386

• WhatsApp Group Link: https://chat.whatsapp.com/LB23xHpe8qy4MdT7KpA4ZS

• FDP Session Link:

https://netacad.webex.com/netacad/j.php?MTID=m8e24f6c91db35948e76a995e3e8d5a2a
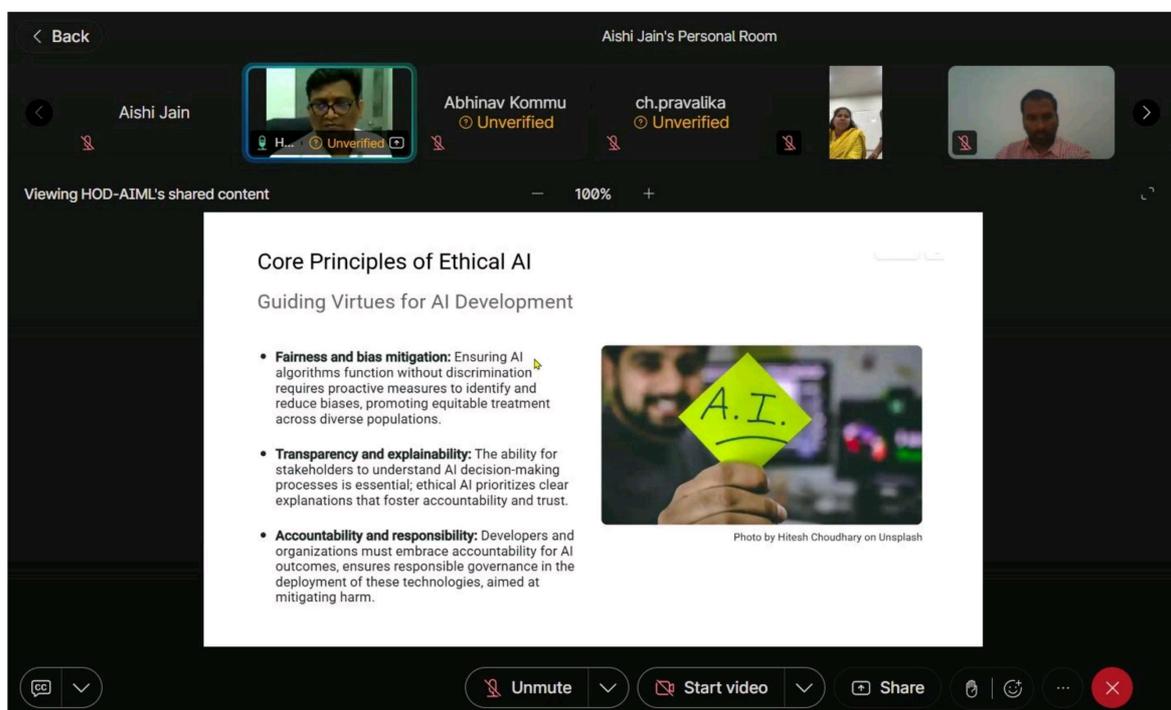
Content and Session

The Faculty Development Programme (FDP) commenced with a warm welcome and introductory address by **Mr. R. Venkatesh, Assistant Professor**, who acknowledged the dignitaries and organizing members behind the initiative. He then welcomed the respected Principal of MRCE, **Dr. Maram Ashok**, who delivered the inaugural address, emphasizing

the importance of **AI-driven technologies in enhancing academic research productivity and innovation**.

Day 1:

Title: Online Faculty Development Programme

Name of Guest Speaker: Dr. S. Kavitha

Topic: Introduction to Artificial Intelligence and Research Applications

Objectives: Understanding the role of AI in modern academic research

Organization Name: Malla Reddy College of Engineering

Day and Date: 5th June 2023
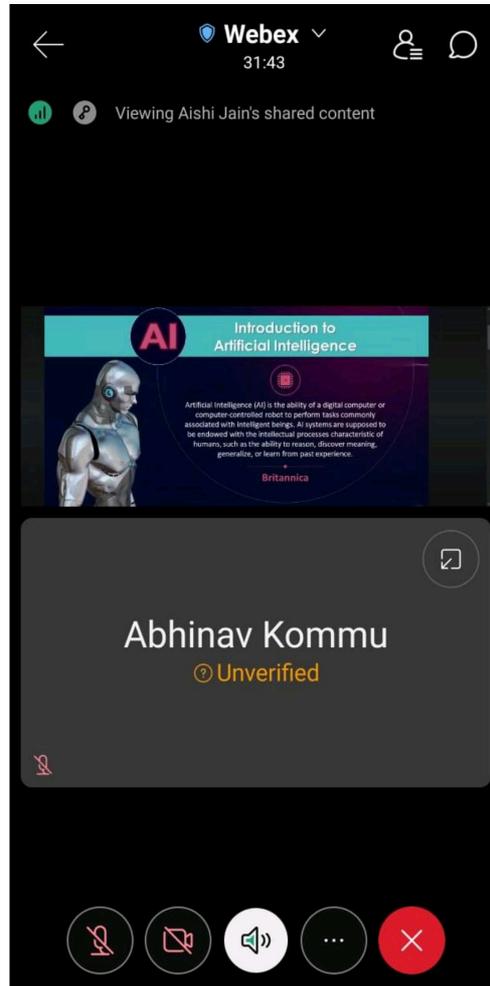
Venue: Online Platform

Time: 6:00 p.m. to 7:30 p.m.

In her session, **Dr. S. Kavitha** provided valuable insights on *Introduction to "Artificial Intelligence and Research Applications"* and highlighted:

• Evolution of Artificial Intelligence and its role in modern academic research

• Importance of AI-driven tools for intelligent literature review and data interpretation

• Application of AI in automating research workflows and improving research productivity

- Role of ethical and responsible AI practices in academic research
- Scope of interdisciplinary research enabled through AI technologies

Day 2:

Title: Online Faculty Development Programme

Name of Guest Speaker: Dr. P. Kamarajapandian

Topic: Data Preparation and Machine Learning Techniques for Research

Objectives: Applying AI-driven analytics and ML techniques in research

Organization Name: Malla Reddy College of Engineering
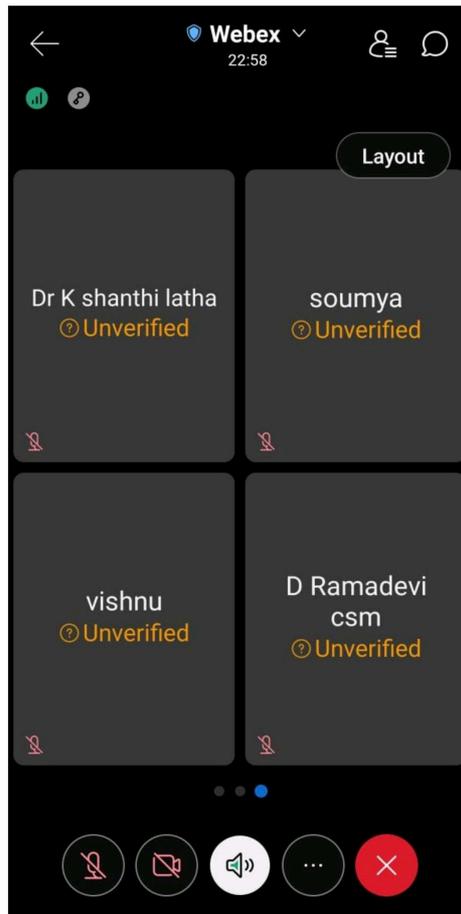
Day and Date: 6th June 2023

Venue: Online Platform

Time: 6:00 p.m. to 7:30 p.m.

In his session, **Dr. P. Kamarajapandian** shared valuable insights on "*Data Preparation and Machine Learning Techniques for Research*" and highlighted:

- Importance of data preprocessing, cleaning, and transformation in research

- Application of machine learning algorithms for classification, prediction, and analysis

- Use of AI-driven analytics tools for handling large and complex datasets

- Role of machine learning in improving accuracy and reliability of research outcomes

- Practical research use cases across engineering and allied disciplines

Day 3

Title: Online Faculty Development Programme

Name of Guest Speaker: Dr. A. Anil Kumar

Topic: Deep Learning and Natural Language Processing for Research

Objectives: Understanding advanced AI techniques for academic research

Organization Name: Malla Reddy College of Engineering
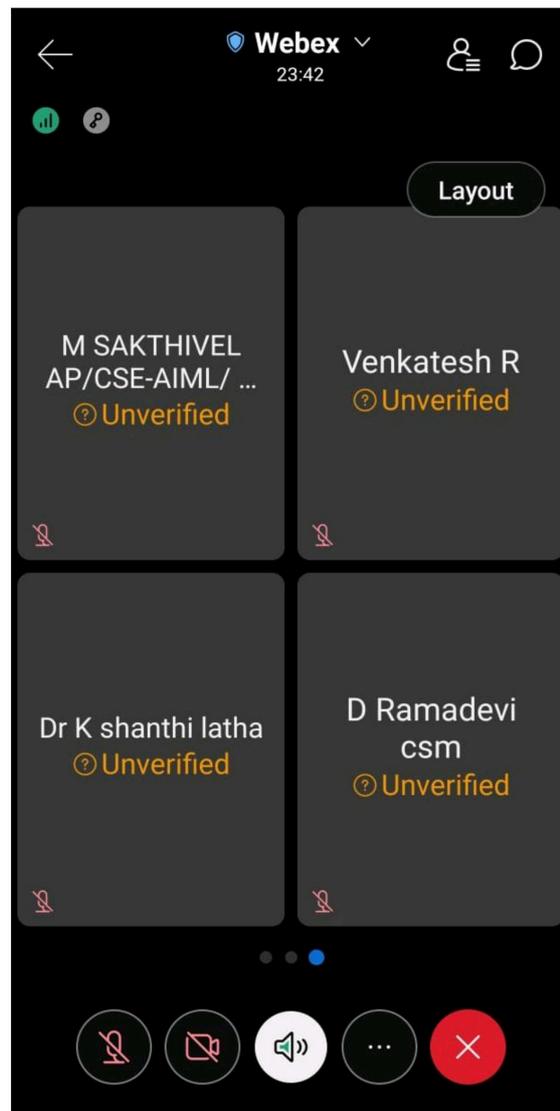
Day and Date: 7th June 2023

Venue: Online Platform

Time: 6:00 p.m. to 7:30 p.m.

In his session, **Dr. A. Anil Kumar** delivered valuable insights on "*Deep Learning and Natural Language Processing for Research*" and highlighted:

• Overview of deep learning architectures and neural networks

• Applications of NLP in text analysis, document classification, and knowledge extraction

• Use of AI models for research automation and intelligent data interpreta

• Importance of explainability and transparency in AI-driven research models

• Research opportunities using deep learning and NLP techniques

Day 4

Title: Online Faculty Development Programme

Name of Guest Speaker: Dr. S. Radha

Topic: Generative AI and Research Automation

Objectives: Understanding AI-based automation and generative research tools

Organization Name: Malla Reddy College of Engineering

Day and Date: 8th June 2023

Venue: Online Platform

Time: 6:00 p.m. to 7:30 p.m.

In her session, **Dr. S. Radha** provided valuable insights on "Generative AI and Research Automation" and highlighted:

- Role of generative AI tools in academic research and content creation
- AI-based automation for research documentation and experimentation
- Use of AI platforms, APIs, and no-code tools for research workflows
- Reduction of manual effort and enhancement of research efficiency using AI
- Impact of generative AI on interdisciplinary research and innovation

Day 5

Title: Online Faculty Development Programme

Name of Guest Speaker: Dr. Balaraju J.

Topic: AI-Driven Research Writing and Proposal Development.

Objectives: Enhancing publication quality and proposal readiness using AI.

Organization Name: Malla Reddy College of Engineering.

Day and Date: 9th June 2023

Venue: Online Platform.

Time: 6:00 p.m. to 7:30 p.m.

In his session, **Dr. Balaraju J.** shared valuable insights on *"AI-Driven Research Writing and Proposal Development"* and highlighted:

- Identifying research gaps and framing AI-based research problems
- Structuring high-quality research papers using AI-assisted tools
- Role of AI in enhancing publication quality and writing efficiency
- Preparing competitive research proposals and funding applications
- Open discussion on future research directions and opportunities in AI.

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PROGRAM OUTCOMES

Program Specific Outcomes (PSOs)

By the end of the Faculty Development Programme, the participants will be able to:

PSO 1 – AI-Enabled Pedagogical Excellence

Adopt AI-driven teaching–learning methodologies, tools, and digital resources to enhance classroom engagement, content delivery, and assessment practices.

PSO 2 – Research & Innovation Competence using AI

Apply AI-driven concepts, methodologies, and tools to conduct quality research, data analysis, experimentation, and develop high-impact research publications.

PSO 3 – AI-Based Industry–Academia Collaboration

Integrate AI-driven industry practices and emerging technological trends into curriculum design, student mentoring, project guidance, and collaborative research initiatives.

PSO 4 – Professional, Ethical, and Responsible AI Practices

Incorporate ethical AI principles, responsible research practices, inclusivity, and lifelong learning habits in academic and research activities to serve as effective mentors and role models.

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Program Educational Objectives (PEOs)

The FDP aims to enable participants to:

PEO 1 – Continuous Upgradation of AI Research Knowledge

Strengthen expertise in AI-driven technologies and stay updated with emerging research tools, methodologies, and industry-aligned practices.

PEO 2 – Enhanced Teaching and Research Competence

Develop innovative AI-assisted pedagogy, assessment strategies, and research-oriented teaching approaches to improve student learning outcomes and research readiness.

PEO 3 – Research & Development Orientation through AI

Encourage faculty to initiate AI-enabled research, secure funded projects, publish in reputed journals, file patents, and contribute to institutional research excellence.

PEO 4 – Holistic Faculty Growth and Leadership

Foster collaboration, adaptability, and professional responsibility by leveraging AI-driven tools for academic leadership, research management, and institutional development.

PEO 5 – Building AI-Driven Student-Centric Ecosystems

Equip faculty to mentor students effectively by guiding them in AI-based projects, internships, research activities, industry certifications, and career development pathways.

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Conclusion

The Five-Day Faculty Development Programme (FDP) on **"AI-Driven Technologies for Academic Research"** concluded successfully with a rich blend of knowledge dissemination, practical exposure, and collaborative learning. Over the span of five days, the sessions provided participants with a comprehensive understanding of how Artificial Intelligence is transforming academic research through intelligent data analysis, automated experimentation, advanced modeling, and research automation.

Eminent resource persons from reputed academic institutions delivered insightful sessions highlighting the rapid evolution of AI-driven research technologies and their applications across multidisciplinary domains. Participants were introduced to AI-based research tools, machine learning and deep learning techniques, natural language processing, generative AI systems, and AI-assisted publication and proposal development. The discussions and demonstrations enabled faculty members to understand how AI-driven platforms enhance research productivity, quality, and innovation.

The FDP significantly strengthened the research orientation of participants by guiding them in identifying research gaps, designing AI-enabled research models, preparing datasets, writing high-quality research papers, and developing competitive funding proposals. Interactive Q&A sessions, open discussions, and peer learning opportunities facilitated the exchange of ideas and encouraged interdisciplinary collaboration among participants.

Overall, the FDP successfully achieved its objective of equipping faculty members with practical knowledge and AI-driven tools required to integrate modern AI technologies into academic research workflows. The programme not only enhanced participants' research capabilities but also inspired them to adopt innovative, technology-driven approaches in teaching and mentoring. The successful completion of this FDP marks an important step toward nurturing a community of **research-driven, AI-enabled educators** capable of guiding students and institutions in an increasingly AI-powered academic ecosystem.

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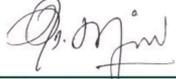Maisammaguda, Dhullapally, post via Kompally, Secunderabad - 500100

Sample Certificates:

CERTIFICATE
PLEXUS
UNITED BY NERVES
OF PARTICIPATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Mr. Sajin R. Nair

For participating in Five Day National level Faculty Development Program on "AI Driven Technologies for Academic Research" conducted from 05 to 09 June 2023.

Dr. Anantha Raman G R
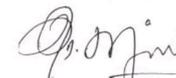*Co-Convener*
HOD-CSE(AIML)-MRCE

Dr. Maram Ashok
Convener
PRINCIPAL-MRCE

CERTIFICATE
PLEXUS
UNITED BY NERVES
OF APPRECIATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Dr. S. Kavitha

for the contribution as a Resource Person in the Five-Day National Level Faculty Development Program on "AI Driven Technologies for Academic Research" conducted form 05 June to 09 June 2026

Dr. Anantha Raman G R
Co-Convener
HOD-CSE(AIML)-MRCE

Dr. Maram Ashok
Convener
PRINCIPAL-MRCE

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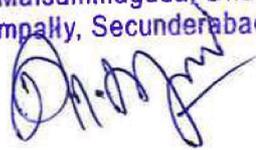Maisammaguda, Dhullapally, post via Kompally, Secunderabad - 500100

"A National level FDP on "AI-Driven Technologies For Acadamic Research"
Successfully organized and completed with support of convenor,
Co-convenor and Organizers

Signature:

Convenor :

Principal
MALLA REDDY COLLEGE OF ENGG.
Maisammaguda, Dhulapally Post,
Kompally, Secunderabad-500 100, T.S

Co-convenors :

Organizers:

1.

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THANK YOU!!

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THANK YOU!!